BUSINESS PLAN
Northwest Materials Reuse
January 10, 1997

This document has been funded in part by the United States Environmental Protection Agency (EPA) Region 10, as a part of the Jobs Through Recycling Initiative (JTR), under assistance agreement #X1990525-01-0 to the Clean Washington Center. The contents of this document do not necessarily reflect the views and policies of the EPA, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

1.0 Executive Summary

Recyclers are facing a major problem in Washington State: supplies of recycled glass continue to increase while prices continue to drop. In April, 1996, prices for "super clean" clear, regular quality clear, and amber dropped by 15% to historic lows due to legislative changes in California that are impacting the demand for glass cullet (please see Attachment A: letter from Browning-Ferris Industries). Recyclers often cannot find buyers for their green glass, and with current prices it is often cheaper to send glass to landfills than to sort it for resale.

Wine bottles are a significant contributor to this problem. In 1995, over 67,000,000 bottles of wine were sold in Washington State, resulting in over 42,000 tons of used glass. More than half of these bottles were green glass, most of which cannot be resold. Washington's steadily growing wine industry produced over 42,000,000 bottles of wine in 1995, creating a demand for over 3,500,000 cases of bottles. Even though successful resterilization projects in California and Oregon have demonstrated that profitable businesses that wash wine and other bottles and return them to productive use can be established, no business enterprise in Washington State has yet been created on a sufficient scale to take advantage of this business opportunity.

The Institute for Washington's Future, in cooperation with MidTown Commons and the Skookum Corporation, proposes to establish a major new reuse project in the MidTown area of Seattle, Washington. The centerpiece of the project will be a bottle resterilization project in which wine and beer bottles will be diverted from Washington's waste stream, resterilized, and sold back to wine and beer producers. In addition, the Institute proposes to provide a range of additional services to the state's wine industry, including the sale and distribution of new glass, decorking, the removal of labels from new bottles, and the sale of items such as corks and neck wrappers.

This business represents a continuation and expansion of a business originally established by the Skookum Corporation in Port Townsend, Washington. That business, called Skookum Rewine, was established in early 1995 as a result of grants and in-kind support Skookum received from the Washington State Department of Ecology, the Clean Washington Center, and the City of Port Townsend. During its fifteen months of actual operation Skookum ReWine established an extensive infrastructure among the state's wineries and recycling communities, collecting and reselling over 100 tons of wine bottles from more than a third of the state's 100 wineries. Skookum, however, gradually found that its isolated geographic location and the limitations of its bottlewashing machine added too much cost to the overall operation for it to achieve profitability. Skookum discontinued its operation on August 31, 1996 and has been working closely with the Institute and MidTown Commons to use the expertise and the infrastructure developed during its operations to support the expanded Seattle-based operation.

This Business Plan will describe in detail how Skookum's experience, combined with additional expertise provided by the Institute, will form a solid foundation from which to launch an economically viable reuse project in Washington State. This business, to be called Northwest Materials Reuse (NWMR), will during its first year of operation provide full-time employment for four people, divert 375 tons of glass from Washington's waste stream, and sell 60,000 cases of resterilized bottles to the state's wineries -- about 2.6% of the total market opportunity. NWMR will be the only Washington-based business providing these products and services to the state's wine industry.

This Business Plan assumes that this business will generate ove r $350,000 in gross sales during its first year and over $700,000 in its fifth year but that additional contributed support will be needed to cover anticipated operating losses on a decreasing scale -- from $175,000 in year one to $75,000 in year five. However, many variables exist within this business that could dramatically change that conservative

prediction. For example, should the sale of new glass increase at an annual rate of 50% rather than the projected 20% -- not an unrealistic opportunity considering that over 90% of Encore's total sales consist of the sale of new glass -- year five would yield gross sales of over $1,000,000 and a net profit of over $150,000. Also, the importance of this enterprise to the wine industry, environmental industry, and Seattle's inner city provide some very real opportunities for additional contributed support.

There are three companion documents in this report: the *Business Plan*, with narrative and overviews describing the business organization and goals; the *Proformas*, with proforma spreadsheets and assumptions for a high-probability scenario; and the *Resource Manual*, describing operational details learned during the pilot project. Any party interested in this type of business should carefully study all three documents.

1.1 Goals

The goals of Northwest Materials Reuse are follows:

1. Establish and maintain an economically viable reuse business for Washington State. Capture a minimum of 2.6% of the total market share during its first year of operation and expand the opportunity for resterillization beyond the wine industry.
2. Provide employment in Seattle's MidTown area. A minimum of four full-time employees will initially be hired, expanding to at least eight by year five.
3. Divert a minimum of 375 tons of green and other glass from Washington's waste stream annually.
4. Provide a full-service operation in support of the state's wine industry. Additional services such as the sale of new glass, decorking, the sale of neck wrappers and corks, and delabeling will broaden the economic base for this business, improve its profitability, and increase opportunities for additional value-added activities.

1.2 Mission Statements

The Institute For Washington's Future is a tax-exempt, non-profit center for research and education, dedicated to the renewal of progressive moral, intellectual, and political values in the Pacific Northwest and the nation at large. Through its projects, programs, and publications, the Institute seeks to contribute to the ongoing dialogue regarding society's nature in our fast-evolving world; to put forth a vision for the Pacific Northwest; to develop concepts, policy initiatives, and solutions addressing problems that beset us as one region in an interdependent global society.

MidTown Commons was established in 1993 to identify, maintain and enhance the cultural and artistic character of Seattle's MidTown neighborhood, to stimulate economic activity, expand the tax base, preserve and create jobs, and to increase the availability of affordable housing. MidTown Commons was founded as a response to the identification of this area by the Central Area Action Plan as a major business center of Seattle's MidTown neighborhood.

The mission of *Skookum* is to provide meaningful work at fair compensation for developmentally disabled and other "at risk" individuals living in Jefferson County. Included in Skookum's six divisions are the management of Jefferson County's recycling program, a jump rope manufacturing facility, and maintenance contracts with a local military facility and several local businesses. Founded in 1986, Skookum is Jefferson County's primary employer of at risk individuals.

2.0 Company

A new non-profit corporation called Northwest Materials Reuse (NWMR) has been established to manage this new business. Representatives from the Institute, MidTown Commons, and Skookum will serve on its Board of Directors, and Skookum's former Operations Manager has been hired as its first Operations Manager. This company will collect, resterilize, package, and resell wine and other bottles that would otherwise become a part of Washington's waste stream. In addition, NWMR will provide a variety of services to Washington's beverage industry, including label removal from full bottles, custom washing of contaminated bottles, and the sale of new glass.

2.1 A Possible Alternative Structure

An interesting possible structure for a bottlewashing facility would be as a producer's cooperative of the wine producers of Washington. Such a cooperative might not only wash bottles for resale to members and others, but also offer other services to member wineries, possibly including acting as a bottle and supply purchasing cooperative for small and medium size wineries. The wineries themselves, who are in the best position to determine their own needs, would control the services of such a cooperative. A skilled operations manager would be needed for daily operations.

Certain advantages are offered by the Internal Revenue Service for corporations structured as producer cooperatives. Rather than attempting to interpret these advantages, Cooperatives in Agriculture, by David W. Cobra (Prentice Hall, 1989) is quoted in the following paragraphs:

> A cooperative is a user-owned and user-controlled business that distributes benefits on the basis of use. More specifically, it is distinguished from other businesses by three concepts or principles: First, the use-owner principle. . . . Second, the user-control principle. . . . Third, the user-benefits principle. Benefits of the cooperative are distributed to its users on the basis of their use (page 1).
>
> The most distinguishing financial benefit is the distribution of net income, usually the larger part, in the form of patronage refunds. In other words, most net income is distributed to patrons or customers on the basis of business volume, not to owners on the basis of investment. Some net income may be retained as retained earnings in a manner similar to other businesses. Some may also be distributed to owners in the form of dividends on their investment (page 18).
>
> Net income of farmer cooperatives is generally taxed according to the single-tax principle. This principle, recognized by subchapter T of the Internal Revenue Code, insures that cooperative net income is usually taxed at either the cooperative or patron level, but not both. Subchapter T provides that, in addition to deductions allowed other businesses, certain distributions of cooperative net income or allocations paid patrons should be excluded by cooperatives in determining taxable income. . . .
>
> Patronage refunds and per-unit capital retains that patrons do not agree to include in their taxable income are called non-qualified. A cooperative must include nonqualified allocations in its taxable income, but it can deduct cash redemptions on nonqualified allocations. Patrons include redemptions of nonqualified allocations in their taxable income. . . .
>
> Subchapter T specifies additional distributions that may be deducted by cooperatives meeting conditions specified under section 521 of the code. These cooperatives, commonly called exempt or section 521 cooperatives, deduct nonpatronage income distributed to patrons on a patronage basis and dividends on capital stock from taxable income (page 305).
>
> . . . subchapter T treatment is not restricted to agricultural cooperatives. Almost any business that chooses to distribute income to patrons on the basis of patronage and according to a preexisting obligation can exclude this income from its taxable income (page 303).
>
> To qualify under section 521, a cooperative must meet the following requirements:
> 1) It must be a farmer, grower, or similar association organized and operated on a cooperative basis to (a) market farm products or (b) provide farm supplies and equipment.
> 2) If organized on a capital stock basis, substantially all of the cooperative's voting stock must be owned by agricultural producers who market farm products or purchase supplies through a cooperative.

3) Dividends on capital stock are limited to 8% per annum or the legal rate in the state in which the cooperative is incorporated, if greater.

4) Financial reserves of the cooperative must not exceed those that are necessary or required by the law.

5) The cooperative must conduct no more than 50% of its marketing business and no more than 50% of its purchasing business with nonmembers.

6) Nonmembers must be treated in the same manner as members with respect to business transactions such as pricing, pooling, payment of sales proceeds, or allocation of patronage refunds.

7) The cooperative must maintain permanent records of the patronage and equity increases of all members and nonmembers (page 294).

Additional research would, of course, need to be done if a group of wine producers chose to implement any part of this plan. This section merely suggests a possible status with certain advantages of cooperation.

2.2. Company History

Skookum ReWine was a reuse project in which used wine bottles were collected, resterilized, and then sold to wineries at competitive prices. This was accomplished by transporting bottles collected from wineries, recyclers, and consumers to Port Townsend where they were sorted, warehoused, and washed. The bottles were then repackaged into new boxes and sold back to wineries.

Skookum, with support from the Clean Washington Center, the Cascadia Revolving Fund, and the City of Port Townsend, entered into the bottle resterilization business in late 1994 when it purchased an Austrian-built bottle washing machine from a Portland-based recycling operation. The machine was transported from Portland to Port Townsend in late 1994 and the first bottles were washed during the Spring of 1995. A $40,000 grant was received to support the development of this project from the Washington State Department of Ecology (DOE) in late 1994 and an additional grant of $84,100 was awarded to the project in early 1995 by the Environmental Protection Agency (EPA) to assess the feasibility of expanding the Port Townsend “pilot project” into a full-scale statewide operation.

Many activities were undertaken and relationships formed by Skookum during its fifteen months of operation. Bottle collection routes were established with local restaurants, recyclers on Whidbey and Mercer Island, and with many wineries that were willing to donate bottles collected from their tasting rooms and from their bottling operations. Major collection sites were established at the state’s two largest wineries -- Chateau Ste. Michelle and Columbia Winery (Woodinville), as well as at Covey Run Winery (Yakima) and at Washington Hills (Sunnyside).

Much progress was also achieved in addressing a complex array of operational issues. Many variables such as temperature, percentages of caustic solution, and speed of operation were addressed as the bottlewashing machine was brought up to an operational standard. However, after months of experience it was eventually determined that the small machine, while admirably suited to limited use in an European market, could not produce clean bottles on a consistent enough basis and in sufficient volume to be profitable over time. American labels are often affixed to the bottles with pressure sensitive labels that require a more vigorous washing cycle than can be produced by the Klinger machine. Also, bottles often may be stored a year or more before they can be washed, often producing stubborn residues that were difficult for the machine to remove.

The first bottles were sold and delivered during June/July, 1995. Marketing to the state’s wineries was accomplished both by in-person visits to approximately 50 wineries and by mailings to all of the state’s 100 wineries. During its 15 months of actual operation Skookum resterilized and sold over 14,000 cases of bottles to the state’s wine industry and diverted over 100 tons of glass from Washington’s waste stream. Skookum found, however, that operating issues described above and the additional costs of running a statewide recycling program from a remote corner of Washington State added too much cost for the business to achieve profitability. Skookum closed its resterilization project on August 31, 1996.

2.3 Decision-Making Structure

The decision making authority for Northwest Materials Reuse will be vested in three main bodies. The ultimate executive authority for Northwest Materials Reuse will be vested in the **Board of Directors** . Board of Directors' approval is necessary for any pending contracts involving the corporation, for amendation of the by-laws, and for the selection of the **Executive Committee** . The Executive Committee will consist of at least three members of the Board of Directors. The Committee will make executive decisions related to personnel, budgets, financing, contracts, operations, and strategic planning. The Executive Committee will also be responsible for hiring the Operations Manager and for monitoring his/her performance. The **Operations Manager** will assume responsibility for day to day decisions such as bottle collections, washing, and marketing. The Operations Manager will hire staff and production workers in accordance with a budget devised by the Executive Committee. Please see the attached Organization Chart, Fig. 2.0.

Northwest Materials Reuse Organization Structure

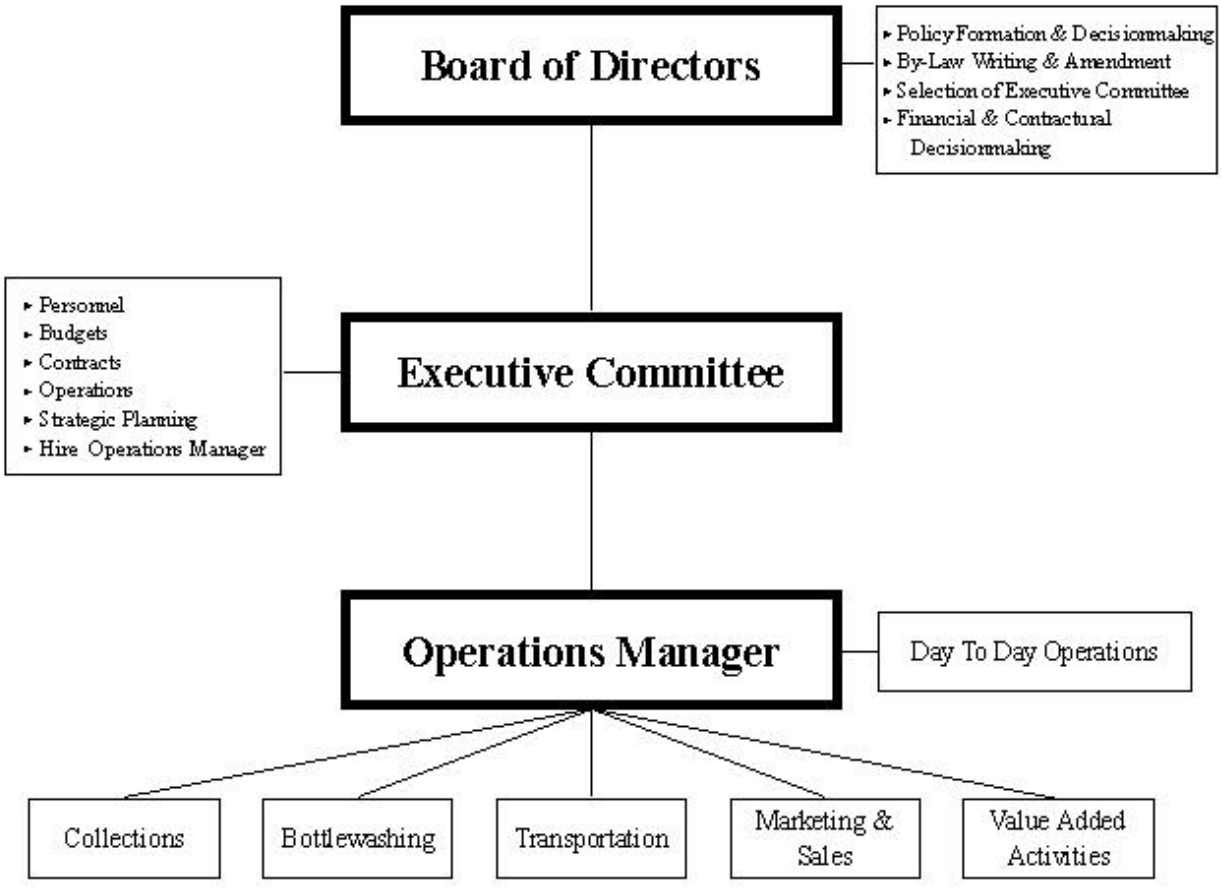


Fig 2.0

2.4 Product

NWMR will provide a number of products and services in support of Washington's wine industry. This will include the sale of both resterilized and new glass, resterilization of bottles owned by wineries that have become unsterile, removal of labels from full bottles that have been mislabeled, decorking of bottles and disposal of wine from batches of wine that cannot be sold, and the sale of corks, neck wrappers, and other items needed by the wine industry.

2.5 Company Locations and Facilities

The production facility will located at a 16000 sq' warehouse and adjacent properties located at 1400 E. Pine on Capital Hill in Seattle, Washington. Bottle sorting, resterilization and packaging, shipping and receiving, and raw material and finished goods inventory will all take place at that location. The Institute's main office at 2111 E. Union will serve as NWMR's administrative office.

The warehouse is located in the ground floor of a two-story building which is owned by Associated Grocers. A Red Apple grocery store is currently located in the top half of the building. The Institute leased the ground floor warehouse space as the site of its collection operation on May 1, 1996, and is currently negotiating a 35 year lease with Associated Grocers for use of the entire building and adjacent properties. This will allow long-term use of the ground floor warehouse area and will free up the top level for a planned sublease to Puget Consumers Co-Op for a new retail facility. Considerable remodeling of the ground floor warehouse area will be needed in order to make the facility suitable for the bottlewashing operation. This remodeling will include the installation of new electrical and plumbing systems, greater soundproofing between floors, and the construction of a loading and shipping area. The estimated cost of this remodeling is $450,000, and an additional $100,000 will be required for the purchase and installation of the bottlewashing machine. These costs are included in the proforma and budgets related to this project.

3.0 Products & Services

The primary product produced by this corporation will be resterilized wine, beer, and other bottles. These bottles will be collected or purchased from wineries, restaurants, caterers, and recyclers and transported to the production facility where they will be sorted according to bottle color and style. The bottles will then be washed, packaged into new boxes, and resold to wine and beer producers.

In addition to the above described products, Northwest Materials Reuse will also provide an array of additional services to Washington State's wine industry, including the sale and distribution of new glass, decorking, and label removal from full bottles.

3.1 Product and Services Description

The following products and services will be provided by NWMR:

- 10-12 styles and colors of bottles which have been resterilized and packaged into new boxes and dividers (for a detailed description of the specific bottles sold by Skookum, please see Fig. 4.1.2)
- Sale of new glass
- Sale of high-quality waste glass -- by-product of the washing process, clean and sorted by color
- Decorking service
- Rewash of customer-owned bottles
- Delabelling of full bottles
- Custom wash of specialty bottles
- Other value added activities -- yet to be determined

NWMR will be the only Washington-State based provider of these products and ser vices, and will be able to provide better service at a more competitive price than any other business serving the Washington wine industry.

3.2 Important Product Features and Comparison

There are over 100 styles and colors of bottles present in Washington's waste stream, many of which are used by the state's wineries. Most of these are not present in sufficient quantity to be reclaimed

from the waste stream and resold back to wine producers -- even though Skookum advertised the availability of 25 styles and colors of bottles over a 15 month period only ten bottles were collected and purchased in any significant quantity.

The successful sale of resterilized glass into this market is dependent on customers switching from new glass distributors with whom they already have an established relationship. This can be accomplished by offering a competitively priced, quality product with better service options than are provided by the new glass distributors. Many wineries, especially after being educated on the major impact that their bottles have on the state's solid waste problem, have also responded favorably to being offered an opportunity to participate in an environmentally responsible enterprise.

3.3 Product Literature

Three issues of a publication entitled the *Green Winery News* were produced by Skookum ReWine and distributed to the state's wineries as well as brochures describing the Skookum Corporation and the ReWine operation itself (enclosed). New brochures, price sheets, and presentation materials will need to be developed in support of this new enterprise. Costs for these materials are included in the proforma section of this Business Plan.

3.4 Product Sourcing

The following is an estimate of the current volumes and cost of wine bottles available to Northwest Materials Reuse as of November 1, 1996:

Source	Vol/Mo	% Usable	Cost/Cs*	Total Cost	#Usable Cs
Wineries	2000 cs	95%	$1.00	$2000	1900
Restaurant/Bus	3000 cs	75%	1.50	$4500	2250
Recyclers*	300 cs	95%	.50	$150	285
TOTALS	**5300 cs**		**$1.25**	**$6650**	**4435**

*Costs include ONLY variable labor and transportation costs directly associated with this activity. A complete breakdown of these costs are included in the proforma section of this Business Plan.

This volume, when combined with the anticipated 25,000 cases that will be on hand at the start of business on 7/1/97, will be more than sufficient to meet production demand during the first year. Additional winery collection sites, expansion of the restaurant/business routes, and bottle purchase from recyclers will be needed to meet production demand after the first year.

One of the primary accomplishments of the Skookum ReWine project has been the establishment of an extensive network of wineries and recyclers willing to donate bottles to this project. In addition, the Institute has established its own collection network within King County. Together, these sources will provide a sufficient quantity of bottles to support the production levels anticipated in this Business Plan, as follows:

Wineries : At present, 1,000 - 2,000 cs/mo are collected from wineries, at an average estimated cost of $.75 - $1.00/cs. Approximately 95% of these bottles are usable. Wineries are by far the best source of bottles since these bottles typically come from tasting rooms and bottling operations and generally have few scratches and are relatively clean. Many, in fact, may be new glass and be very easy to wash. They also are usually stored in boxes on pallets and can be easily picked up from the wineries. Approximately 1/4 of the state's wineries donated bottles directly to Skookum ReWine and will continue donating bottles to NWMR. The two largest collection sites are Chateau Ste. Michelle and Columbia Winery, conveniently located across from each other in Woodinville and less than 20 miles from the NWMR warehouse. Up to 400 cs/wk are collected from these two wineries. Covey Run winery in Yakima is a major collection site for about a dozen wineries in the Yakima which take bottles to that location. Washington Hills Winery also allows collection and storage of bottles from participating wineries at their warehouse in Sunny side. Many customers are also willing to store tasting room bottles at their facilities and donate them as orders are delivered.

Restaurants/Businesses : At present, an estimated 1,000 - 3,000 cs/mo are available through this source, at an average direct labor and transportation cost of $1.50 - $2.50/cs. Approximately 75% of these bottles are usable. Next to wineries, bottles collected from restaurants and businesses are among the most usable for a resterilization project. These bottles are generally in very good shape and are available for washing almost immediately after they have been opened. New restaurants/businesses can be added as needed should a greater volume be required, thus producing a variable supply of bottles that can meet increasing or fluctuating production demands. This is a more labor intensive project than collecting bottles from wineries, however, since collection routes have to be established. Often relatively small quantities of bottles have to be picked up at many locations, and a greater percentage of unusable glass gets mixed in. Additional operational issues, such as a tendency by participating restaurants/businesses to include increasing amounts of waste glass into the mix after the route has been established, tend to creep into this process and can greatly impact its cost effectiveness if not closely monitored.

Recycling Operations : . At present, an average of 300 cs/mo are available through this source, at an average direct cost of $.50/cs. Approximately 95% of these bottles are usable. Two recycling operations are currently collecting and donating bottles in support of this project -- Whidbey Island Recycling and Mercer Island Recycling. These two businesses collect bottles in bins and barrels which must be sorted upon arrival at the warehouse. Some effort was made in early 1995 by Skookum to purchase bottles at $.75/cs from Nuts and Bolts recyclers in Seattle, which proved to be problematic. The bottles were often scratched or chipped and were stored in metal drums that were difficult to transport and manage. Nuts and Bolts was not particularly pleased with the arrangement since it cost them more than $.75/cs to divert the bottles from their waste stream and they have very limited space with which to store the accumulating bottles. It may be that a decreasing market generally for recycled glass will prove an incentive for recyclers to seek additional markets such as this for their products. Recyclers remain the most promising source of additional bottles once washing production exceeds the number of bottles that can be secured from wineries and from restaurants/businesses. However, the expansion of this source of raw material will likely be a complex undertaking, requiring a great deal of work with recyclers to resolve issues such as price, quality control, storage, and transportation.

Post Consumer : Bottles donated directly by consumers at collection sites have proven, in Skookum's experience, to be an unsatisfactory means of securing raw materials and are not anticipated to be needed to supply the production levels anticipated in this Business Plan. Collection bins set up at public areas such as Safeway stores attract beer bottles and many other types of glass that have to be sorted through and discarded. The bottles finally collected by this method often are chipped, broken, or are imports and therefore unusable. Often as few as 20% of post consumer bottles were usable, causing very high labor and glass disposal costs. Once established, this method of collection is exceedingly difficult to discontinue. Indeed, over a year after closing some of Skookum's post consumer collection sites wine bottles (and other trash) are continuing to accumulate at various locations, requiring additional labor and often resulting in complaints from businesses and concerned citizens. Post consumer bottles are not considered as an option in this Business Plan.

3.4.2 Manufact uring Facilities

As described in Section 2.4, the production operation for this business will be housed in a 16,000 sq' warehouse located at 1400 E. Pine. The following equipment will be located at this site:

- A 24-wide bottlewashing machine, capable of handling 220 btl/min, or a maximum of 1,000 cs per 8 hour shift. The machine will have a footprint of approximately 18' X 30', and will require additional space on either end for the loading of raw materials and the unloading of finished goods. The machine will have a fuel oil powered boiler attached and will have specialized electrical and waste disposal requirements
- An electric-powered forklift
- A continuous supply of 40" x 48" pallets (100 minimum to start)
- A continuous supply of sodium hydroxide, to be stored in 55-gallon drums
- One truck capable of hauling a minimum of 500 cases of bottles in a single load.

- A supply of at least 100 55-gallon poly drums
- Hot melt box assembly capacity
- Storage for 100 - 200 pallets of sorted bottles
- Storage for up to 50 pallets of finished goods

Three production workers and one Operations Manager will be needed to accomplish the initial production level proposed in this Business Plan. Since a primary focus of this corporation is to provide employment for low-income individuals living within the Midtown area of Seattle, priority will be given to hiring individuals from that community.

4.0 Market Analysis

Washington wineries produced over 42,000,000 bottles or nearly 3.5 million cases of wine in 1995. It is anticipated that during its first year of operation NWMR will sell approximately 60,000 cases of resterilized bottles and 30,000 cases of new glass, representing less than 3% of the total market. The sales assumptions are based on the actual sales experience of the pilot project and direct contact made with wineries during Skookum's 15 months of operation.

Annual growth rates of 20% are anticipated for this operation, which are relatively modest projections considering that at the time of its closing Skookum was experiencing a 50% growth in sales over its previous year. This growth is anticipated to come from an increasing market share, based on increased customer acceptance of resterilized glass and greater industry awareness of the availability of services that will be provided by NWMR. While state wine consumption has remained relatively flat in recent years (please see Attachment B: Sale of Alcoholic Beverages in Liters - 1935 Through 1995, and Attachment C: Gallons of Acoholic Beverages Sold in Washington) the industry continues to grow at an annual rate of approximately 3%.

4.1 Industry Analysis

Washington's wineries currently purchase bottles from for-profit companies such as Ball Incon, Cal Pac, and Richards that manufacture and distribute new glass. With the execption of a very few orders sold by Encore, located in Richmond, California, Skookum ReWine has been the sole provider of resterilized glass into this market. The primary reason cited by wineries that influenced their decision to purchase resterilized bottles from Skookum was their concern about their contribution to Washington's solid waste problem and the fact that Skookum provided the only opportunity for them to purchase recycled glass. Statements such as "its about time!" frequently described winery owner's reaction to the introduction of this new product in Washington State. The second reason most often cited was that Skookum provided wineries with the opportunity to purchase relatively small quantities of glass at a time on short notice. While participating wineries were appreciative of the fact that Skookum kept shipping and transportation charges to a minimum, price was not a significant factor in wineries decision to purchase resterilized glass. This was largely due to the fact that Skookum charged nearly the same for resterilized glass as glass distributors charged for new. Many winery owners indicated that they would be more interested with lower prices and an absolute assurance of product quality.

The largest of the for-profit compani es selling new glass in the Washington market, Ball Incon, has been in the market for many years but in recent years has tended to work primarily with the largest wineries and is not particularly accommodating to the issues and needs of small wineries. Wineries doing business with Ball Incon are often required, for example, to purchase their entire years worth of glass at one time, which can cause severe warehousing and cash flow problems. Companies such as Cal Pac are willing to deal in smaller quantities but frequently present smaller wineries with similar issues. These suppliers, however, are often able to respond very quickly to orders and are generally able to have a truck full of glass arrive at a winery within a few days of the receipt of an order.

Skookum ReWine has been the only Washington-based producer of resterilized glass. Encore is not at present a significant factor in the Washington market. Encore has, in fact, been very supportive of the establishment of a resterilization project in Washington State. They have provided invaluable technical support and have sold glass to Skookum for resale in Washington State. Their owners have frequently expressed the belief, based on their 25 years of experience in California, that the ultimate market for resterilized glass within the wine industry exceeds the capacity of organizations such as theirs or Skookum to provide, and that the establishment of a quality resterilization industry in Washington State will only serve to educate a new segment of the wine industry of the importance and value of reuse and

will ultimately open up new markets for everyone. Two additional resterilization projects currently in operation in the Western United States are not currently players in the Washington market nor are they expected to be so in the future. Saga, located in Colton, Oregon, cannot meet demand in the Oregon market and has stated during in-persons that they are not interested in selling resterilized glass in Washington State. A new resterilization project currently being established in northern California is an unknown quantity but will likely not be selling bottles in the Washington market for the forseeable future.

4.2.1 Customers

It is anticipated that the primary purchasers of resterilized glass in Washington State will be small to medium-sized wineries that purchase bottles in limited quantities. These are wineries that have limited capital and/or storage space and which prefer not to have to purchase an entire year's worth of bottles at a single time. Geographically, these customers are scattered throughout the state, with the heaviest concentration being in the Yakima Valley and in Western Washington. Of the nearly 100 Washington State wineries, more than 70% fall into this category. Since there are no other resterilization opportunities for Washington State wineries, NWMR is the *only* possibily for wineries seeking to reclaim bottles in their own warehouses and storage areas that need to be delabled, decorked, or rewashed.

4.2.2 Market Segme ntation

As described in section 4.0, the 15 months of the operation of Skookum ReWIne provide the basis for a detailed analysis of sales opportunities in the Washington market. Specifically, this experience allows for a winery by winery description of actual sales by bottle type (Fig. 4.2.1) and by winery (Fig 4.2.2):

PILOT PROJECT: TOTAL BOTTLES SOLD, BY BOTTLE TYPE

BOTTLE	7/1 - 9/30/95	10/1 - 12/31/95	1/1 - 3/30/96	4/1 - 6/30/96	7/1 - 9/30/96	TOTAL	% of TOTAL
123					60	60	.4
321			100			100	.7
711	472	280	40	42	352	1186	8
711-P	160	142	138	127	390	957	6
715					100	100	.7
716	591		67		295	953	6
716-P	135	313	536	48	1473	2505	17
721	30					30	.2
721-P	56					56	.4
723		120			1382	1502	10
723-P	516	76		350	750	1692	11
726-P	56					56	.4
741	295	15				310	2
745	60					60	.4
746	1050	246		811	360	2467	17
748		250	40	450		740	5
Rewash	262	386	223	256	366	1493	10

123 1.5 ltr Deadleaf Green Burgundy Flat
321 375ml Flint
711 750 ml Flint Claret Flat
711-P 750 ml Flint Claret Push-Up
715 750 ml Emerald Green Claret Flat
716 750 ml Champagne Green Claret Flat
716-P 750 ml Champagne Green Push-Up
721 750 ml Flint Burgundy Flat
721-P 750 ml Flint Burgundy Push-Up
723 750 ml Deadleaf Green BurgundyFlat
723-P 750 ml Deadleaf Green Burgundy Push-Up
726-P 750 ml Champagne Green Burgundy Push-Up
741 750 ml Flint Hock
745 750 ml Emerald Green Hock
746 750 ml Champagne Green Hock
748 750 ml Amber Hock

Fig 4.1.1

PILOT PROJECT: TOTAL BOTTLES SOLD 7/1/95 - 9/30/96

WINERY	7/1 - 9/30 95	10/1 - 12/31	1/1 - 3/30/96	4/1 - 6/30/96	7/1 - 9/30/96
Andrew Will				70 cs 723-P	
Bainbridge Island	750 cs 746			450 cs 748	
				511 cs 746	
Camaraderie	76 cs 723-P		210 cs 716-P		
	15 cs 741				
Cavatappi				150 cs Rewash	210 cs 711-P
Cristom (Ore)					920 cs 723-P
					60 cs 123
Facelli	224 cs Rewash				
Fairwinds		146 cs 746			150 cs 746
		125 cs 716-P			150 cs 716-P
		42 cs 711-P			45 cs 711
Hinzerling					180 cs 711-P
					60 cs 746
					40 cs 723-P
Horizon's Edge					225 cs Rewash
				140 cs 723-P	
				112 cs 711-P	
Johnson Creek				28 cs 716-P	
Knipprath	60 cs 745			20 cs 716-P	
	280 cs 741				
	490 cs 723-P				
Lopez	440 cs 723-P		138 cs 711-P		260 cs 723-P
	160 cs 711-P				110 cs 716-P
Lost Mountain					400 cs 716-P
McCabe & Brown		9 cs Rewash	13 cs Rewash	30 cs Rewash	141 cs Rewash
McCrea		76 cs 723-P			
		15 cs 741			
Mt. Baker	100 cs 716-P	40 cs 716-P	67 cs 716		100 cs 716-P
	112 cs 711	100 cs 711-P	133 cs 716-P		
	30 cs 721	250 cs 748	193 cs 716-P		
	35 cs 716-P	100 cs 746	40 cs 711		
	56 cs 721-P	100 cs 711	40 cs 748		
	56 cs 726-P				
Neuharth		20 cs 716-P			
Portteus					180 cs 716-P
					100 cs 715
					20 cs 716
Soos Creek		33 cs 716-P			
Thomas		20 cs 716-P	100 cs 321	15 cs 711-P	12 cs 716-P
Vashon				76 cs Rewash	
Washington Hills		377 cs Rewash			
Whidbey	101 cs 716	120 cs 723		300 cs 746	220 cs 711
	38 cs Rewash	1800 cs 711		42 cs 711	150 cs 746
	300 cs 746				87 cs 711
	190 cs 711				100 cs 716-P
					275 cs 716
White Heron				140 cs 723-P	462 cs 723
					421 cs 716-P
					450 cs 723-P
Worden			210 cs Rewash		
TOTALS	**3683**	**1828**	**1144**	**2084**	**5528**

Total Bottles Sold 7/1/95 - 9/30/96: 14,267 cases

Fig 4.1.2

Figure 4.1.1 and 4.1.2 provide a realistic projection of which wineries are likely to purchase bottles, based on actual experience.

An analysis of Skookum's sales records indicate that 14,267 cases of bottles were sold during its operation, less than 25% of anticipated sales during NWMR's first year of operation. However, the following factors must be considered when projecting sales volume for this expanded operation:

- Skookum started as an entirly new business with no customers. By the time of its closure, Skookum had 26 active customers, all of whom have expressed an interest in purchasing bottles from the new operation.
- Skookum was unable to produce bottles in sufficient quantity to effectively market itself in the wine industry. Several wineries expressed an interest in placing sizable orders with Skookum which could not be filled because of operational limitations.
- Many wineries reported that they were unwilling to purchase bottles from Skookum during its first year of operation due to concerns about the quality of resterilized glass. Skookum's solid track record of sales into the Washington market provides a strong vantage point from which to encourage sales from new customers.
- Skookum was unable to obtain significant quantities of identical bottles. As a result, particularily with push-up bottles, many wineries could not accommodate the minute variations of size of shape present in recycled bottles of a particular type with their high-speed bottling lines and therefore could not use the Skookum product. It is anticipated that this problem will be remedied with the larger-scale operation in Seattle.

5.0 Sales & Marketing: Strategy and Implementation

NWMR will provide products and services not provided by any other business in Washington State: resterilized glass; the opportunity for customers to have their own bottles rewashed or delabelled; decorking options for wineries that have batches of contaminated wine; a "one stop shopping" option for wineries seeking products such as bottle, corks, and neck wrappers. The overall sales and marketing strategy will be to stress NWMR's unique products, unique services, and its unique capacity to tailor its services to meet the exact needs of each individual customer.

5.1.1 Marketing Strategies: Resterilized Glass

Image, quality, and prestige are crucial to the wine industry. People pur chasing wine generally have a wide range of available choices and often make their choices based as much on reputation and appearance as on price. Image is particularily important to the small and medium-sized wineries that are expected to be the core of NWMR's customer base. Many of those wineries are family owned and the quality of the product reflects directly on the personal reputation of the owners themselves. In addition, many wineries are concerned about how their glass contributes to the state's solid waste problem and are very appreciative of the opportunity to be presented with an "environmentally responsible" alternative to their current purchasing options.

Given these considerations, the following marketing strategies are planned for NWMR:

1. *Solidify and expand the customer base already established by Skookum within the wine industry.* Contact existing customers and secure new orders, follow-up with customers who have made inquiries or who already participate through their donation of bottles. Make presentations to industry associations such as the Wine Institute and the Yakima Valley Wine Producers Association. Publicize the opening of the new business in trade publications and to the media.
2. *Stress NWMR's unique array of products and services.* NWMR is Washington State's only producer of resterilized bottles, the only place where customers can have their own dirty bottles returned to productive use, the only place where customers can buy limited quantities on short notice. These services can provide considerable savings for wineries.
3. *Stress convenience -- provide a "one stop shopping" option for customers* . NWMR can provide all of the glass need of wineries, including both resterilized and new glass.
4. *Introduce resterilization to new customer bases, such as microbrews, home winemakers.* While wineries are and likely will remain the core of NWMR's business, tremendous potential exists for expanding its services to business other than wineries that utilize reusable glass containers.

5. *Present a positive image of resterilized glass* . Stress sterility, quality control, and the environmental benefits of using this product. Demonstrate how the image of wineries will be enhanced by using this product.
6. *Price.* For wineries that are price-conscious, NWMR's resterilized bottles are the cheapest bottles available on the Washington market.

5.1.2 Marketing Strategy: New Glass

Encore's experience, the experience of the Port Townsend pilot project, and the budget projections contained in the pro forma section of this Business Plan all indicate that revenue from the sale of resterilized glass alone will not be sufficient for this operation to achieve profitability. In addition to the anticipated revenue that will be generated through the sale of new glass, this activity also adds an essential component to the overall service delivery that will be provided to wineries through this project:

A key component to the overall marketing strategy will be to approach individual wineries and offer to provide all of their glass needs on an annual basis. This will provide wine producers with the convenience of working with a single vendor for their glass and will enable NWMR to establish the relationships and market base that it will need to sustain its operation over time. It is very unlikely, however, that NWMR will have sufficient resterilized bottles in stock at any given time to provide any but the smallest wineries with their total glass needs. New glass sales will enable NWMR to supplement its resterilized glass to completely meet the total glass needs of an ever expanding customer base. Indeed, it is anticipated (again, based on Encore's experience) that several customers will initially purchase only new or mostly new glass and will gradually purchase resterilized glass as they gain confidence in its quality and NWMR's service delivery capacity.

Encore has provided NWMR with a sample of an order form which it used during its first few years of operation in which customers were provided the opportunity to purchase either new or resterilized glass which included the following statement:

"Quantities of resterilized glass needed to complete your order are best estimates based on expected availability. This may affect your "WEIGHTED AVERAGE" price given above. ENCORE! will increase the percentage of resterilized glass whenever possible unless specifically requested to do so." (fig 5.1.0).

This approach enabled Encore to introduce resterilized glass to its customers at the level at which it was available and make up any shortfalls with new glass. NWMR intends to utilize a similar approach.

5.1.3 Pricing Strategy

The following chart illustrates prices currently quoted by several of the leading suppliers of new glass into the Washington market in comparison to the price at which Skookum offered resterilized glass into the same market:

Bottle	B & P Packaging*	CALPAC**	Richards***	ReWine****
Hock, Brown	$4.55			$4.95
Hock, Green	$5.15		$5.14	$4.95
Burgundy, Green Flat	$4.20		$4.40	$4.10
Burgundy, Green PU		$5.37	$5.34	$4.95
Burgundy, Deadleaf Flat	$4.20		$4.40	$4.25
Burgundy, Deadleaf PU	$4.65	$5.49	$5.34	$5.05
Burgundy, Smoke PU			$5.80	$5.50
Claret, Green Flat	$3.80		$4.40	$4.10
Claret, Flint Flat	$4.15		$4.40	$4.10
Claret, Green PU	$4.60	$5.37	$5.34	$4.95

*Canadian Distributor, US Dollars, FOB Surrey BC
**Portland Based, FOB Lynnwood, WA
***FOB Kent, WA
****Free transportation within 50 miles of Port Townsend, $50/trans in W. Washington, $100/trans to E. Washington, no minimum orders, no charge for pallets.

Fig 5.1.1

As described in Section 5.1., price alone will not sell resterilized glass. However, many wineries contacted during the Skookum pilot project were tempted to purchase resterilized glass but did request a price incentive. The most often heard comment: "why should I take a chance on resterilized glass when I can buy new glass for just a few cents more?"

The pricing strategy for NWMR is to offer resterilized glass at an average of $.50/cs less than the cost of new glass and to offer new glass at competitive rates. Wineries will not be charged for pallets but will be charged for transportation, also at competitive rates. The following price structure for wine bottles is suggested for NWMR, and is the basis for the financial projections within the proforma section of this Business Plan:

Bottle	**Resterilized**	**New**
Claret & Burgundy Flat	$3.89	$4.24
Claret & Burgundy Push-Ups	$4.49	$4.99
Hocks	$4.49	$5.04

There are no competitors providing the services that will be provided by NWMR in Wa shington State so there are no competitive prices available for comparison. Projected prices for the services that will be provided by NWMR are based primarily on Skookum's experience in providing those services:

Used clean glass, sorted by color:	$100/ton
Decorking Services:	$1.00/cs
Rewash	$3.50/cs (includes repackaging into new boxes)
Delabelling	$3.50/cs (includes repackaging into new boxes)
Custom Wash	$3.50/cs (includes repackaging into new boxes)

5.1.4 Promotion Strategy

The overall g oal of the promotion strategy will be to devlop and foster the personal relationships that will result in sales and customer loyalty. Many customers will require multiple contacts as well as follow-ups after sales have occurred to monitor customer satisfaction and quality control. Since NWMR will present itself as a service company, immediate response to all customer questions and complaints is crucial. The promotion strategy will consist of an integrated combination of written materials, media, articles in trade publications, and direct contact by telephone and through in-person visits, as follows:

Written Materials: Presentation packets that publicize the various products and services provided by NWMR. Price lists and company brochures are crucial.

Media Contact: Press releases to newspapers, radio, and television, especially as the new business opens or new products or services are added.

Direct Contact: Telephone contact with wineries and other prospective customers. In-person visits by the Operations Manager.

A Sales and Marketing Coordinator will be responsible for coordinating all efforts related to the promotion of NWMR. Specifically, the Coordinator will help design all written materials; write press releases and follow-up on all media contacts; design, implement, and maintain a contact strategy for all wineries and keep a log of all contacts; write articles for inclusion in trade publications; and assist with critical public and industry presentations. A comprehensive log which describes the unique characteristics of each winery has already been developed by Skookum and will be updated quarterly by the Coordinator.

INTRODUCTION TO BUSINESS PLAN PROFORMAS

On the following pages is a comprehensive series of assumptions and financial statements that describe the anticipated financial activities for Northwest Materials Reuse for the time frame from July 1, 1997 - June 30, 2002. This proforma describes a business which will experience an annual growth rate of 20% for each product and service throughout the five year period and that has a fixed relationship between labor and material costs and sales price. Clearly, after the first year of operation these assumptions must be challenged: sales of individual products or services may grow at a greater or lesser rate than initially anticipated, greater production volumes may enable a greater than anticipated reduction in cost/product or service, unforeseen fluctuations in the glass market may result in price changes. Given the sizable array of variables that could impact the future growth of this company, it was decided to take a conservative approach that would allow for as accurate picture as possible and that is neither overly optimistic or conservative.

Since this proforma describes a business that doubles in production output over a five year period a critical consideration is production capacity. Even the best sales strategies and justifications can be undermined when a business lacks the capacity to provide products and services to meet anticipated demand. The following underlying assumptions address capacity issues:

The anticipated bottlewashing machine, based on many conversations with suppliers of such equipment, is a 24-wide machine with a maximum production capacity of 220 bottles/minute. This size and type of machine was chosen because of price, availability, production capacity, and its proven track record in resterilizing bottles. It is similar to the bottlewashing machine currently being used by Encore, which has a monthly production output of over 40,000 cases. At the fifth year of NWMR's operation production volume is anticipated to be approximately 11,000 cs/mo, still far short of the ultimate production capacity of the bottlewashing machine.

The physical space of the expected Capital Hill site for the production facility will be sufficient to manage the increased production volume provided additional space is found for the storage of raw materials and finished goods. Again, using Encore as an example, the 16,000 sq' warehouse is similar in size to Encore's production facility which produces several times the volume anticipated in this Business Plan. A concern, however, is sufficient space for storage of raw materials and finished goods. If the properties adjacent to the anticipated production site should prove to be insufficient to meet warehousing needs additional space will need to be found. No expenses related to this possibility are included in this proforma.

A minimum of four people will be required to run the machine: one loader, two inspectors/packagers, and one person who is bringing raw materials to the machine and taking finished goods away from the washing area by forklift. The latter person will also be involved with other warehouse responsibilities such as wrapping pallets, shipping and receiving, and the removal of waste materials. During periods in which the bottlewashing machine is not in use the workforce will primarily be involved with the collection and sorting of raw materials.

Increasing production volumes will require an expanding labor force -- from four full-time workers on 7/1/97 to eight full-time workers after five years. Access to a skilled labor force is not anticipated to be a critical issue given the project's relationship with MidTown Commons and its access to a relatively large labor force.

An additional critical underlying assumption is that this business will require significant ongoing cash support in addition to operational revenues to meet anticipated operating losses and cash flow demands. Specifically, this business will require $100,000 in additional support during its first year, $125,000 for the second and third years, $100,000 for the fourth year, and $75,000 for the fifth year. The non-profit status of the corporation and the importance of this enterprise to the wine industry, environmental industry, and Seattle's inner city provide some very strong opportunities to secure additional financial support from corporations, foundations, and governmental agencies.

PROFORMA BUDGET ASSUMPTIONS

First Year Sales Estimates*

Resterilized Bottles:	Assumes 50,100 cases sold at an average price of $4.25/cs
New Glass	Assumes 19,370 cases sold at an average price of $4.75/cs
Crushed/Used Glass	Assumes 1 - 2 tons produced/mo, @ $100/ton
Decorking	Assumes 1500 cs decorked @ $1.00/cs
Rewash	Assumes 6,300 cs rewashed @ $3.50/cs

Delabelling	Assumes 1150 cs delabelled @ $3.50/cs
Custom Wash	Assumes 1900 cs custom washed @ $3.50/cs
Other Value Added	Assumes po tential sale of corks, neckwrappers, and other yet to be identified activities

*For description and justification of sales estimates, please see Section 5.2.1, Sales Forecast
*For description and justification of pricing structure, please see Section 5.1.2, Pricing Strategy

Future Year Sales Estimates
It is assumed that sales will increase at an annual rate of 20% and there will be no price increases during years 2-5 (please see Section 5.2.1, Sales Forecast).

Contributed Income
Contributed income in decreasing amounts will be needed to cover operating losses and the cash flow needs of the expanding business during the five year period described in this Business Plan. Specifically, $100,000 will be required the first year, $125,000 in years two and three, $100,000 in year four, and $75,000 in year five. Contributed income could be received in the form of grants, corporate gifts or underwriting, extension of existing contracts with the City of Seattle, City of Bellevue, or King County, or from other governmental sources. Contributed Income is listed in the "Income from Operations" section of the Income Statements and the Budget Statement.

Cost of Goods Sold

Summary of Cost of Goods Sold

PRODUCT/SERVICE	Cost of Raw Materials	Cost of Labor	Total Cost	% of Sales Price
Resterilized Bottles	2.33	.82	3.15	74%
New Glass	4..25	0	4.25	89%
Used Glass	26.00	51.00	77.00	77%
Decorking	0	.400	0	0
Rewash	1.08	1.18	2.26	65%
Delabelling	1.08	1.18	2.26	65%
Custom Wash	1.08	1.18	2.26	65%
Other Value Added	0	0	0	0

I. Materials

Summary of Materials Assumptions:

PRODUCT/SERVICE	Raw Materials	Boxes/ Dividers	Pallets	Wrap/ String	Transport	Bbls	Chem	Total Cost	% of Price
Resterilized Bottles	.89	.77	.10	.01	.10	0	.10	1.97	46%
New Glass	4.10	0	0	0	.15	0		4.25	89%
Used Glass	0	0	5.00	0	1.00	20.00		26.00	26%
Decorking	0	0	0	0	0	0		0	0
Rewash	0	.77	.10	.01	.10	0	,10	1.08	31%
Delabelling	0	.77	.10	.01	.10	0	.10	1.08	31%
Custom Wash	0	.77	.10	.01	.10	0	.10	1.08	31%
Other Value Added	0	0	0	0	0	0		0	0

Breakout of Materials Assumptions

Resterilized Bottles:

Assumes an average sales price of $4.25/cs

Raw Materials:	$1.25 average cost/cs to collect, sort, and store (see Section 3.4 in Business Plan)
Boxes & Dividers:	$.77/cs
Pallets	$.10/cs -- $8.00/pallet, 75 cases on each pallet
Shrink Wrap & String	$.01/cs
Transportation	$.10/cs for gas & mileage
Chemicals	$.10cs for sodium hydroxide
Total material cost:	$2.33/cs, or 55% of total sales price

New Glass:

Assumes an average sales pri ce of $4.75/cs

Raw Materials:	$4.10/cs average purchase price
Transportation:	$.15/cs average cost
Total material cost:	$4.25/cs, or 89% of total sales price

Crushed/Used Glass:

Assumes an average sales price of $100/ton

55-gallon drums:	$20.00 4bbls/ton @ $5.00 ea
Pallets	$5.00 1 pallet/ton @ $5.00 ea
Transportation	$1.00/ton for gas & mileage
Total fixed material cost:	$26/ton, or 26% of sales price

Decorking:

No material costs are assumed with this activity

Rewashed Bottles:

As sumes an average sales price of $3.50/cs.

Boxes & Dividers:	$.77/cs
Pallets	$.10/cs -- $8.00/pallet, 75 cases on each pallet
Shrink Wrap & String	$.01/cs
Transportation	$.10/cs for gas & mileage
Chemicals	$.10/cs for sodium hydroxide
Total material cost:	$1.08/cs, or 31% of total sales price

Relabeled Bottles:

Assumes an average sales price of $3.50/cs.

Boxes & Dividers	$.77/cs
Pallets	$.10/cs -- $8.00/pallet, 75 cases on each pallet
Shrink Wrap & String	$.01/cs
Transportation	$.10/ cs for gas & mileage
Chemicals	$.10/cs for sodium hydroxide
Total material cost:	$1.08/cs, or 31% of total sales price

Custom Wash:

Assumes an average sales price of $3.50/cs.

Boxes & Dividers	$.77/cs
Pallets	$.10/cs -- $8.00/pallet, 75 cases on each pallet
Shrink Wrap & String	$.01/cs
Transportation	$.10/cs for gas & mileage
Chemicals	$.10/cs for sodium hydroxide
Total material cost:	$1.08/cs, or 31% of total sales price

Other Value Added:

Yet to be determined

II. Labor

Summary of Labor Assumptions:

PRODUCT/SERVICE	Bottle Washing	Box Manufact	Material Handling	Decork	Transport Labor	Total Cost	% of Price
Resterilized Bottles	.80	.13	0	0	.25	1.18	28%
New Glass	0	0	0	0	0	0	0
Used Glass	0	0	50	0	1.00	51.00	51%

Decorking	0	0	0	.40	0	0	40%
Rewash	.80	.13	0	0	.25	1.18	34%
Delabelling	.80	.13	0	0	.25	1.18	34%
Custom Wash	.80	.13	0	.01	.25	1.18	34%
Other Value Added	0	0	0	0	0	0	50%

Breakout of Labor Assumptions

Resterilized Bottles

Assumes an average sales price of $4.25/cs.

Bottlewashing	$.80/cs Average daily washing activity of 500 cs/8 hr shift will require 5 production workers making $10.00/hr ea (wages & benefits)
Box Manufacture	$.13/cs 75 cs/hr at an average hourly wage of $10.00/hr (wages & benefits)
Raw Materials	Already included in $1.25/cs cost of raw materials
Transportation	Drivers wages @ $.25/cs
Total labor cost:	$1.18/cs, or 28% of total sales price

New Glass:

It is assumed that new glass will be shipped directly to the customer from the manufacturer and will not require additional labor

Crushed/Used Glass:

Assumes an average sales price of $100/ton

Material Handling:	$50/ton -- 5 hrs/ton @ $10.00/hr (wages & benefits)
Transportation	Drivers wages @$1.00/ton
Total labor cost:	$51/ton, or 51% of total sales price

Decorking:

Assumes an average sales price of $1.00/cs

Decorking	$.40/cs -- 25 cs/hr @ $10.00/hr wage & benefit rate
Total labor cost:	$.40/cs, or 40% of total product cost

Rewash:

Assumes an average sales price of $3.50/cs

Bottlewashing	$.80/cs Average daily washing activity of 500 cs/8 hr shift will require 5 production workers making $10.00/hr ea (wages & benefits)
Box Manufacture	$.13/cs 75 cs/hr at an average hourly wage of $10.00/hr (wages & benefits)
Transportation	Drivers wages @ $.25/cs
Total labor Cost:	$1.18/cs, or 34% of total product cost

Delabelling:

Assumes an average sales price of $3.50/cs

Bottlewashing	$.80/cs Average daily washing activity of 500 cs/8 hr shift will require 3 production workers making $10.00/hr ea (wages & benefits)
Box Manufacture	$.13/cs 75 cs/hr at an average hourly wage of $10.00/hr (wages & benefits)
Transportation	Drivers wages @ $.25/cs
Total labor Cost:	$1.18/cs, or 34% of total sales price

Custom Wash:

Bottlewashing	$.80/cs Average daily washing activity of 500 cs/8 hr shift will require 3 production workers making $10.00/hr ea (wages & benefits)
Box Manufacture	$.13/cs 75 cs/hr at a n average hourly wage of $10.00/hr (wages & benefits)
Transportation	Drivers wages @ $.25/cs
Total labor Cost:	$1.18/cs, or 34% of total sales price

Other Value Added

Assumes 50% labor cost, depending on the specific product or service provided

III. Fixed Costs

Production Management Salaries:	$30,000; assumes 1 full-time Operations Manager with a monthly salary of $2500 (wages & benefits). Annual salary increases are expected to average 5%.
Production Facility Expense:	$150 0; assumes $1200/mo rent and $300/mo in additional expenses. Facility costs are expected to Increase 3% annually.
Production Equipment Rental:	$500 annually, mostly for forklift rentals
Small Tools/Supplies	$3000 annually, primary for hot melt guns and glue sticks
Packaging Supplies	Cost of boxes, dividers, shrink wrap and string already included in material costs
Other Production Expenses	Miscellaneous additional expenses @ $200/mo

Operating Expense Assumptions

Sales & Marketing

Advertising:	$250/annually for industry publications
Commissions:	$0
Entertainment:	$75/mo
Literature:	$2000 first year for brochures/mailers
Promotions:	$0
Salaries:	$1000/mo for Sales/Promotions coordinator (please see Section 5.1.3, Promotion Strategy
Trade Shows:	$0
Travel:	$200/mo for Sales/Promotions Coordinator

Research & Development

No money is budgeted for this activity

General & Administrative

Accounting:	$0; Accounting expenses are included under Administrative Salaries
Admin Salaries:	$2500/mo; assumes .75FTE position to manage bookkeeping, accounting, billing, accounts receivable/payable, and other administrative activities
Bad Debts	$1000/annually
Equipment Rental/ Small Purchases	$25/mo
Insurance	$200/mo
Legal Fees	$0

Licenses and Permits	$500/yr
Office Expenses	$100/mo
Office Rental	$0; production offices will be located at the operations facility; administrative office space will be donated by the Institute for Washington's Future
Taxes	$0
Telephone	$300/mo
Utilities	$1000/mo, includes cost of fuel oil, electricity, water, sewage, and waste disposal
Interest Income:	$250/yr for bank interest
Interest Expense:	$500/yr for credit card interest

ANNUAL GROWTH ASSUMPTIONS

Sales

It is assumed that all sales activities will grow at an annual rate of 20% (see Section 5.2.1, Sales Forecast)

Cost of Goods Sold

It is assumed that material and labor costs will increase at an annual rate of 19%.
Fixed costs will increase at an annual rate of 5%

Operating Expenses

It is assumed that operating expenses will increase at an annual rate of 5%

BALANCE SHEET ASSUMPTIONS

Assets

Cash

It is assumed that $100,000 in grants and $500,000 in HUD loans will be received by July 1, 1997. That money will go towards the purchase and installation of the bottlewashing machine ($100,000) and remodeling of the warehouse ($450,000), leaving a beginning bank balance of $50,000.

Inventory

An anticipated 25,000 cases of sorted bottles wil l be on hand by the start of business on 7/1/97. This inventory is valued at $1.25/cs, or $31,250, based on an estimate of the cost of acquiring that inventory.

Other Current Assets

This describes the anticipated value of the following materials and equipment that will be on hand by 7/1/97:

Forklift	$1000
Sodium Hydroxide	$2500
Barrels	$1000
Pallets	$ 500

Retained Earnings

The carry forward figure for retained earnings is $106,704, which represents the equity position given the startup asset value of $646,758 and liability of $540,054.

CASH FLOW ASSUMPTIONS: First Year

It is assumed that accounts receivable, accounts payable, and inventory will all average 45 days.

It is anticipated that no expenses for land or building acquisition will be made during the first year and the expenses related to building/leasehold improvements and machinery/equipment for the first year will have been covered by the initial $550,000 investment made prior to the beginning of the business operation.

$1700 will be spent during the year on office equipment (primarily for a computer) and no additional money will be spent on vehicles.

CASH FLOW ASSUMPTIONS: Years 2-5

Accounts payable and receivable will continue to average 45 days. Inventory will average 90 days: increasing production levels will require a higher volume of sorted bottles on hand.

$25,000 will be spent on building/leasehold improvements during the second year but that expense will decrease to $10,000 annually thereafter.

$25,000 will be spent in years 2 & 5 in additional equipment to support the bottlewashing activity. Potential equipment includes machines for the removal of neckwrappers, additional screens and filtration systems for the bottlewasher, additional forklifts, and bottle inspection/ scanning equipment. $5000 will be spent in years 3 & 5.

An additional vehicle will be required by year 2, necessitating a down payment of $4000 and $500/mo in lease or purchase payments thereafter.

The monthly payment for the $500,000 loan will be $2700 (5% interest, 30-year payout), or $32,400 annually.

***** BUDGET (Year 1 by month) *****

Sales	Jul-97	Aug-97	Sep-97	Oct-97	Nov-97	Dec-97	Jan-98	Feb-98	Mar-98	Apr-98	May-98	Jun-98	Year 1	% of Total Sales
Resterilized Bottles	$20,000	$20,000	$27,500	$27,500	$14,000	$5,500	$6,000	$12,500	$17,500	$20,000	$25,000	$30,000	$225,500	63.24%
New Glass	$0	$5,000	$10,000	$10,000	$5,000	$0	$0	$2,000	$5,000	$10,000	$20,000	$25,000	$92,000	25.80%
Crushed/Used Glass	$100	$200	$200	$200	$100	$0	$0	$100	$200	$200	$200	$200	$1,700	0.48%
Decorking	$0	$0	$0	$0	$0	$0	$0	$500	$0	$0	$1,000	$0	$1,500	0.42%
Rewash	$0	$2,000	$2,500	$3,000	$1,000	$2,000	$1,500	$1,000	$2,000	$2,000	$2,500	$2,500	$22,000	6.17%
Label Removal	$0	$0	$0	$0	$0	$0	$0	$0	$1,000	$1,000	$1,000	$1,000	$4,000	1.12%
Custom Wash	$0	$0	$0	$500	$750	$750	$750	$1,000	$0	$1,000	$1,000	$1,000	$6,750	1.89%
Other Value Added	$0	$0	$0	$500	$0	$0	$500	$1,000	$0	$0	$100	$1,000	$3,100	0.87%
Total Sales	$20,100	$27,200	$40,200	$41,700	$20,850	$8,250	$8,750	$18,100	$25,700	$34,200	$50,800	$60,700	$356,550	100.00%
Cost of Goods Sold														
Material	$11,026	$16,122	$24,852	$25,162	$12,719	$3,878	$3,998	$9,301	$15,057	$21,192	$32,997	$40,197	$216,501	60.72%
Labor	$3,251	$3,982	$5,352	$5,942	$2,886	$1,815	$1,975	$3,431	$3,922	$4,662	$6,082	$6,932	$50,232	14.09%
Total Variable COGS	$14,277	$20,104	$30,204	$31,104	$15,605	$5,693	$5,973	$12,732	$18,979	$25,854	$39,079	$47,129	$266,733	74.81%
% of Total Sales	71.03%	73.91%	75.13%	74.59%	74.84%	69.01%	68.26%	70.34%	73.85%	75.60%	76.93%	77.64%	74.81%	
Fixed Cost of Goods & Services														
Production Management Salaries	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$30,000	8.41%
Production Facility Expense	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$36,000	10.10%
Production Equipment Rental	$42	$42	$42	$42	$42	$42	$42	$42	$42	$42	$42	$42	$504	0.14%
Small Tools / Supplies	$250	$250	$250	$250	$250	$250	$250	$250	$250	$250	$250	$250	$3,000	0.84%
Packaging Supplies	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0.00%
Other Production Expenses	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$2,400	0.67%
Total Fixed Cost of Goods & Services	$5,992	$5,992	$5,992	$5,992	$5,992	$5,992	$5,992	$5,992	$5,992	$5,992	$5,992	$5,992	$71,904	20.17%
% of Total Sales	29.81%	22.03%	14.91%	14.37%	28.74%	72.63%	68.48%	33.10%	23.32%	17.52%	11.80%	9.87%	20.17%	
Total Cost of Goods Sold	$20,269	$26,096	$36,196	$37,096	$21,597	$11,685	$11,965	$18,724	$24,971	$31,846	$45,071	$53,121	$338,637	94.98%
Gross Profit	($169)	$1,104	$4,004	$4,604	($747)	($3,435)	($3,215)	($624)	$729	$2,354	$5,729	$7,579	$17,913	5.02%
% of Total Sales	-0.84%	4.06%	9.96%	11.04%	-3.58%	-41.64%	-36.74%	-3.45%	2.84%	6.88%	11.28%	12.49%	5.02%	
Operating Expenses														
Sales & Marketing														
Advertising	$21	$21	$21	$21	$21	$21	$21	$21	$21	$21	$21	$21	$252	0.07%
Commissions	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0.00%
Entertainment	$75	$75	$75	$75	$75	$75	$75	$75	$75	$75	$75	$75	$900	0.25%
Literature	$2,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,000	0.56%
Promotions	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0.00%
Salaries	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$6,000	1.68%
Trade Shows	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0.00%
Travel	$240	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$2,440	0.68%
Total Sales & Marketing Costs	$2,836	$796	$796	$796	$796	$796	$796	$796	$796	$796	$796	$796	$11,592	3.25%
% of Total Sales	14.11%	2.93%	1.98%	1.91%	3.82%	9.65%	9.10%	4.40%	3.10%	2.33%	1.57%	1.31%	3.25%	
Research & Development														
Consulting	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0.00%
Equipment (Expensed Purchases)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0.00%
R & D Materials	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0.00%
R & D Salaries	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0.00%
Total R & D Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0.00%
% of Total Sales	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
General & Administrative														

Accounting	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0.00%
Admin Salaries	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$30,000	8.41%
Bad Debts	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0.00%
Depreciation	$2,093	$2,095	$2,095	$2,095	$2,095	$2,095	$2,112	$2,112	$2,112	$2,120	$2,120	$2,120	$25,264	7.09%
Equipment Rental/Small Purchases	$25	$25	$25	$25	$25	$25	$25	$25	$25	$25	$25	$25	$300	0.08%
Insurance	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$2,400	0.67%
Legal Fees	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0.00%
Licenses and Permits	$42	$42	$42	$42	$42	$42	$42	$42	$42	$42	$42	$42	$504	0.14%
Office Expenses	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$1,200	0.34%
Office Rental	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0.00%
Taxes (non-Income Taxes)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0.00%
Telephone	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$3,600	1.01%
Utilities	$1,000	$1,000	$1,000	$1,000	$500	$500	$1,000	$1,000	$1,000	$1,000	$1,500	$1,500	$12,000	3.37%
Total G & A Costs	$6,260	$6,262	$6,262	$6,262	$5,762	$5,762	$6,279	$6,279	$6,279	$6,287	$6,787	$6,787	$75,268	21.11%
% of Total Sales	31.14%	23.02%	15.58%	15.02%	27.64%	69.84%	71.76%	34.69%	24.43%	18.38%	13.36%	11.18%	21.11%	
Total Operating Expenses	$9,096	$7,058	$7,058	$7,058	$6,558	$6,558	$7,075	$7,075	$7,075	$7,083	$7,583	$7,583	$86,860	24.36%
% of Total Sales	45.25%	25.95%	17.56%	16.93%	31.45%	79.49%	80.86%	39.09%	27.53%	20.71%	14.93%	12.49%	24.36%	
Income From Operations	($9,265)	($5,954)	($3,054)	($2,454)	($7,305)	($9,993)	($10,290)	($7,699)	($6,346)	($4,729)	($1,854)	($4)	($68,947)	-19.34%
% of Total Sales	-46.09%	-21.89%	-7.60%	-5.88%	-35.04%	-121.13%	-117.60%	-42.54%	-24.69%	-13.83%	-3.65%	-0.01%	-19.34%	
Contributed Income	$0	$0	$25,000	$0	$0	$25,000	$0	$0	$25,000	$0	$0	$25,000	$100,000	28.05%
Interest Expense	$42	$42	$42	$42	$42	$42	$42	$42	$42	$42	$42	$42	$504	0.14%
Income before Taxes	($9,307)	($5,996)	$21,904	($2,496)	($7,347)	$14,965	($10,332)	($7,741)	$18,612	($4,771)	($1,896)	$24,954	$30,549	8.57%
Taxes on Income	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Net Income After Taxes	($9,307)	($5,996)	$21,904	($2,496)	($7,347)	$14,965	($10,332)	($7,741)	$18,612	($4,771)	($1,896)	$24,954	$30,549	8.57%
% of Total Sales	-46.30%	-22.04%	54.49%	-5.99%	-35.24%	181.39%	-118.08%	-42.77%	72.42%	-13.95%	-3.73%	41.11%	8.57%	

***** INCOME STATEMENT (Year 1 by month) *****

Sales	Jul-97	Aug-97	Sep-97	Oct-97	Nov-97	Dec-97	Jan-98	Feb-98	Mar-98	Apr-98	May-98	Jun-98	Year 1	% of Total Sales
Resterilized Bottles	$20,000	$20,000	$27,500	$27,500	$14,000	$5,500	$6,000	$12,500	$17,500	$20,000	$25,000	$30,000	$225,500	63.24%
New Glass	$0	$5,000	$10,000	$10,000	$5,000	$0	$0	$2,000	$5,000	$10,000	$20,000	$25,000	$92,000	25.80%
Crushed/Used Glass	$100	$200	$200	$200	$100	$0	$0	$100	$200	$200	$200	$200	$1,700	0.48%
Decorking	$0	$0	$0	$0	$0	$0	$0	$500	$0	$0	$1,000	$0	$1,500	0.42%
Rewash	$0	$2,000	$2,500	$3,000	$1,000	$2,000	$1,500	$1,000	$2,000	$2,000	$2,500	$2,500	$22,000	6.17%
Relabeling	$0	$0	$0	$0	$0	$0	$0	$0	$1,000	$1,000	$1,000	$1,000	$4,000	1.12%
Custom Wash	$0	$0	$0	$500	$750	$750	$750	$1,000	$0	$1,000	$1,000	$1,000	$6,750	1.89%
Other Value Added	$0	$0	$0	$500	$0	$0	$500	$1,000	$0	$0	$100	$1,000	$3,100	0.87%
Total Sales	$20,100	$27,200	$40,200	$41,700	$20,850	$8,250	$8,750	$18,100	$25,700	$34,200	$50,800	$60,700	$356,550	100.00%
Cost of Goods Sold														
Material	$11,026	$16,122	$24,852	$25,162	$12,719	$3,878	$3,998	$9,301	$15,057	$21,192	$32,997	$40,197	$216,501	60.72%
Labor	$3,251	$3,982	$5,352	$5,942	$2,886	$1,815	$1,975	$3,431	$3,922	$4,662	$6,082	$6,932	$50,232	14.09%
Total Variable COGS	$14,277	$20,104	$30,204	$31,104	$15,605	$5,693	$5,973	$12,732	$18,979	$25,854	$39,079	$47,129	$266,733	74.81%
% of Total Sales	71.03%	73.91%	75.13%	74.59%	74.84%	69.01%	68.26%	70.34%	73.85%	75.60%	76.93%	77.64%	74.81%	
Total Fixed Cost of Goods & Services	$5,992	$5,992	$5,992	$5,992	$5,992	$5,992	$5,992	$5,992	$5,992	$5,992	$5,992	$5,992	$71,904	20.17%
Total Cost of Goods Sold	$20,269	$26,096	$36,196	$37,096	$21,597	$11,685	$11,965	$18,724	$24,971	$31,846	$45,071	$53,121	$338,637	94.98%
Gross Profit	($169)	$1,104	$4,004	$4,604	($747)	($3,435)	($3,215)	($624)	$729	$2,354	$5,729	$7,579	$17,913	5.02%
% of Total Sales	-0.84%	4.06%	9.96%	11.04%	-3.58%	-41.64%	-36.74%	-3.45%	2.84%	6.88%	11.28%	12.49%	5.02%	
Operating Expenses														
Sales & Marketing	$966	$966	$966	$966	$966	$966	$966	$966	$966	$966	$966	$966	$11,592	3.25%
Research & Development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0.00%
G & A (without Depreciation)	$4,167	$4,167	$4,167	$4,167	$4,167	$4,167	$4,167	$4,167	$4,167	$4,167	$4,167	$4,167	$50,004	14.02%
Depreciation	$2,093	$2,095	$2,095	$2,095	$2,095	$2,095	$2,112	$2,112	$2,112	$2,120	$2,120	$2,120	$25,264	7.09%
Total Operating Expenses	$7,226	$7,228	$7,228	$7,228	$7,228	$7,228	$7,245	$7,245	$7,245	$7,253	$7,253	$7,253	$86,860	24.36%
% of Total Sales	35.95%	26.57%	17.98%	17.33%	34.67%	87.61%	82.80%	40.03%	28.19%	21.21%	14.28%	11.95%	24.36%	
Income From Operations	($7,395)	($6,124)	($3,224)	($2,624)	($7,975)	($10,663)	($10,460)	($7,869)	($6,516)	($4,899)	($1,524)	$326	($68,947)	-19.34%
% of Total Sales	-36.79%	-22.51%	-8.02%	-6.29%	-38.25%	-129.25%	-119.54%	-43.48%	-25.35%	-14.32%	-3.00%	0.54%	-19.34%	
Contributed Income	$0	$0	$25,000	$0	$0	$25,000	$0	$0	$25,000	$0	$0	$25,000	$100,000	28.05%
Interest Expense	$42	$42	$42	$42	$42	$42	$42	$42	$42	$42	$42	$42	$504	0.14%
Income before Taxes	($7,437)	($6,166)	$21,734	($2,666)	($8,017)	$14,295	($10,502)	($7,911)	$18,442	($4,941)	($1,566)	$25,284	$30,549	8.57%
Taxes on Income	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0.00%
Net Income After Taxes	($7,437)	($6,166)	$21,734	($2,666)	($8,017)	$14,295	($10,502)	($7,911)	$18,442	($4,941)	($1,566)	$25,284	$30,549	8.57%
% of Total Sales	-37.00%	-22.67%	54.06%	-6.39%	-38.45%	173.27%	-120.02%	-43.71%	71.76%	-14.45%	-3.08%	41.65%	8.57%	

BALANCE SHEET (Year 1 by month)

As of the Month Ending:

Assets	**Jul-97**	**Aug-97**	**Sep-97**	**Oct-97**	**Nov-97**	**Dec-97**	**Jan-98**	**Feb-98**	**Mar-98**	**Apr-98**	**May-98**	**Jun-98**
Current Assets												
Cash	$17,079	$21,775	$44,478	$39,853	$23,330	$73,677	$55,162	$36,159	$24,145	$31,557	$43,472	$52,778
Investments	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Accounts Receivable	$30,150	$35,475	$50,550	$61,425	$46,913	$21,825	$12,750	$20,138	$32,850	$44,925	$63,750	$83,625
Notes Receivable	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Inventory	$41,281	$33,129	$31,630	$23,459	$22,624	$21,187	$37,107	$50,361	$101,888	$86,692	$73,644	$106,242
Other Current Assets	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000
Total Current Assets	$93,510	$95,379	$131,658	$129,737	$97,867	$121,689	$110,019	$111,658	$163,883	$168,174	$185,866	$247,645
Plant & Equipment												
Land	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Buildings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Building/Leasehold Improvements	$125,000	$125,000	$125,000	$125,000	$125,000	$125,000	$125,000	$125,000	$125,000	$125,000	$125,000	$125,000
Machinery & Equipment	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000
Office Equipment	$600	$700	$700	$700	$700	$700	$1,700	$1,700	$1,700	$2,200	$2,200	$2,200
Automobiles	$7,500	$7,500	$7,500	$7,500	$7,500	$7,500	$7,500	$7,500	$7,500	$7,500	$7,500	$7,500
Less Accumulated Depreciation	($2,093)	($4,188)	($6,283)	($8,378)	($10,473)	($12,568)	($14,680)	($16,792)	($18,904)	($21,024)	($23,144)	($25,264)
Total Net Plant & Equipment	$231,007	$229,012	$226,917	$224,822	$222,727	$220,632	$219,520	$217,408	$215,296	$213,676	$211,556	$209,436
Other Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Assets	$324,517	$324,391	$358,575	$354,559	$320,594	$342,321	$329,539	$329,066	$379,179	$381,850	$397,422	$457,081
Liabilities & Owners' Equity												
Current Liabilities												
Short Term Debt	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Accounts Payable	$30,404	$39,144	$54,294	$55,644	$32,396	$17,528	$17,948	$28,086	$37,457	$47,769	$67,607	$79,682
Other Payables	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000
Accrued Liabilities	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Total Current Liabilities	$41,404	$50,144	$65,294	$66,644	$43,396	$28,528	$28,948	$39,086	$48,457	$58,769	$78,607	$90,682
Long Term Debt	$172,300	$169,600	$166,900	$164,200	$161,500	$158,800	$156,100	$153,400	$150,700	$148,000	$145,300	$142,600
Total Liabilities	$213,704	$219,744	$232,194	$230,844	$204,896	$187,328	$185,048	$192,486	$199,157	$206,769	$223,907	$233,282
Owner/Stockholder Equity												
Common Stock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Retained Earnings	$110,813	$104,647	$126,381	$123,715	$115,698	$154,993	$144,491	$136,580	$180,022	$175,081	$173,515	$223,799
Less Dividends Payable	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Owners' Equity	$110,813	$104,647	$126,381	$123,715	$115,698	$154,993	$144,491	$136,580	$180,022	$175,081	$173,515	$223,799
Total Liabilities & Equity	$324,517	$324,391	$358,575	$354,559	$320,594	$342,321	$329,539	$329,066	$379,179	$381,850	$397,422	$457,081

CASH FLOWS (STATEMENT of CHANGES in FINANCIAL POSITION: Year 1 by month)

Sources of Cash:	**Jul-97**	**Aug-97**	**Sep-97**	**Oct-97**	**Nov-97**	**Dec-97**	**Jan-98**	**Feb-98**	**Mar-98**	**Apr-98**	**May-98**	**Jun-98**	**Year 1**
Operations during the year:													
Net Income After Taxes	($7,437)	($6,166)	$21,734	($2,666)	($8,017)	$14,295	($10,502)	($7,911)	$18,442	($4,941)	($1,566)	$25,284	$30,549
Add items not decreasing cash													
Depreciation	$2,093	$2,095	$2,095	$2,095	$2,095	$2,095	$2,112	$2,112	$2,112	$2,120	$2,120	$2,120	$25,264
Increase in Accounts Payable	$15,404	$8,740	$15,150	$1,350	($23,248)	($14,868)	$420	$10,138	$9,371	$10,312	$19,838	$12,075	$64,682
Increase in Other Payables	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Increase in Accrued Liabilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Deduct items not increasing cash													
Increase in Accounts Receivable	$30,150	$5,325	$15,075	$10,875	($14,512)	($25,088)	($9,075)	$7,388	$12,712	$12,075	$18,825	$19,875	$83,625
Increase in Inventory	$10,031	($8,152)	($1,499)	($8,171)	($835)	($1,437)	$15,920	$13,254	$51,527	($15,196)	($13,048)	$32,598	$74,992
Cash from Operations	($30,121)	$7,496	$25,403	($1,925)	($13,823)	$28,047	($14,815)	($16,303)	($34,314)	$10,612	$14,615	($12,994)	($38,122)
Financing & Other:													
Sale of Stock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Proceeds from Short Term Loans	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Proceeds from Long Term Loans	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sale of Investments	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Collection of Notes Receivable	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Reduction of Other Current Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Reduction of Other Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Cash from Operations & Financing	($30,121)	$7,496	$25,403	($1,925)	($13,823)	$28,047	($14,815)	($16,303)	($34,314)	$10,612	$14,615	($12,994)	($38,122)
Applications of Cash:													
Payment of Dividends	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Purchases of Fixed Assets	$100	$100	$0	$0	$0	$0	$1,000	$0	$0	$500	$0	$0	$1,700
Repayment of Short Term Loans	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Repayment of Long Term Loans	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$32,400
Purchase of Investments	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Increase in Notes Receivable	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Increase in Other Current Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Increase in Other Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Increase/(Decrease) in Cash	($32,921)	$4,696	$22,703	($4,625)	($16,523)	$25,347	($18,515)	($19,003)	($37,014)	$7,412	$11,915	($15,694)	($72,222)
Change in Cash Balance													
Ending Cash Balance	$17,079	$21,775	$44,478	$39,853	$23,330	$48,677	$30,162	$11,159	($25,855)	($18,443)	($6,528)	($22,222)	($22,222)
Beginning Cash Balance	$50,000	$17,079	$21,775	$44,478	$39,853	$23,330	$48,677	$30,162	$11,159	($25,855)	($18,443)	($6,528)	$50,000
Increase/(Decrease) In Cash	($32,921)	$4,696	$22,703	($4,625)	($16,523)	$25,347	($18,515)	($19,003)	($37,014)	$7,412	$11,915	($15,694)	($72,222)

***** BREAK-EVEN ANALYSIS (Year 1 by month) *****

	Jul-97	Aug-97	Sep-97	Oct-97	Nov-97	Dec-97	Jan-98	Feb-98	Mar-98	Apr-98	May-98	Jun-98	Year 1	% of Total Sales
Sales	$20,100	$27,200	$40,200	$41,700	$20,850	$8,250	$8,750	$18,100	$25,700	$34,200	$50,800	$60,700	$356,550	
Fixed Costs														
Fixed Cost of Goods & Services	$5,992	$5,992	$5,992	$5,992	$5,992	$5,992	$5,992	$5,992	$5,992	$5,992	$5,992	$5,992	$71,904	20.17%
Sales & Marketing (w/o Commissions)	$966	$966	$966	$966	$966	$966	$966	$966	$966	$966	$966	$966	$11,592	3.25%
Research & Development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0.00%
G & A (w/o Depreciation)	$4,167	$4,167	$4,167	$4,167	$4,167	$4,167	$4,167	$4,167	$4,167	$4,167	$4,167	$4,167	$50,004	14.02%
Depreciation	$2,093	$2,095	$2,095	$2,095	$2,095	$2,095	$2,112	$2,112	$2,112	$2,120	$2,120	$2,120	$25,264	7.09%
Less Reclassified Fixed Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0.00%
Total Fixed Costs	$13,218	$13,220	$13,220	$13,220	$13,220	$13,220	$13,237	$13,237	$13,237	$13,245	$13,245	$13,245	$158,764	44.53%
Variable Costs														
Material and Labor	$14,277	$20,104	$30,204	$31,104	$15,605	$5,693	$5,973	$12,732	$18,979	$25,854	$39,079	$47,129	$266,733	74.81%
Commissions	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0.00%
Plus Reclassified Fixed Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0.00%
Total Variable Costs	$14,277	$20,104	$30,204	$31,104	$15,605	$5,693	$5,973	$12,732	$18,979	$25,854	$39,079	$47,129	$266,733	74.81%
Income from Operations	($7,395)	($6,124)	($3,224)	($2,624)	($7,975)	($10,663)	($10,460)	($7,869)	($6,516)	($4,899)	($1,524)	$326	($68,947)	-19.34%
Contributed Income	$0	$0	$25,000	$0	$0	$25,000	$0	$0	$25,000	$0	$0	$25,000	$100,000	28.05%
Income Taxes - "Variable"	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0.00%
Net Income After Taxes	($7,395)	($6,124)	$21,776	($2,624)	($7,975)	$14,337	($10,460)	($7,869)	$18,484	($4,899)	($1,524)	$25,326	$31,053	8.71%
Income from Operations Analysis														
Contribution Margin	28.97%	26.09%	24.87%	25.41%	25.16%	30.99%	31.74%	29.66%	26.15%	24.40%	23.07%	22.36%	25.19%	
Break-Even Sales Volume	$45,626	$50,674	$53,166	$52,027	$52,552	$42,654	$41,708	$44,633	$50,616	$54,275	$57,405	$59,242	$630,252	176.76%
Sales Volume Above Break-Even	($25,526)	($23,474)	($12,966)	($10,327)	($31,702)	($34,404)	($32,958)	($26,533)	($24,916)	($20,075)	($6,605)	$1,458	($273,702)	-76.76%
Net Income After Taxes Analysis														
Contribution Margin	28.97%	26.09%	24.87%	25.41%	25.16%	30.99%	31.74%	29.66%	26.15%	24.40%	23.07%	22.36%	25.19%	
Break-Even Sales Volume	$45,626	$50,674	$153,706	$52,027	$52,552	$123,314	$41,708	$44,633	$146,212	$54,275	$57,405	$171,061	$1,027,225	288.10%
Sales Volume Above Break-Even	($25,526)	($23,474)	($113,506)	($10,327)	($31,702)	($115,064)	($32,958)	($26,533)	($120,512)	($20,075)	($6,605)	($110,361)	($670,675)	-188.10%

***** INCOME STATEMENT (Years 1 - 5) *****

Sales	Year 1	% of Total Sales	Year 2	% of Total Sales	Year 3	% of Total Sales	Year 4	% of Total Sales	Year 5	% of Total Sales
Resterilized Glass	$225,500	63.24%	$270,600	63.24%	$324,720	63.24%	$389,664	63.24%	$467,597	63.25%
New Glass	$92,000	25.80%	$110,400	25.80%	$132,480	25.80%	$158,976	25.80%	$190,771	25.80%
Crushed/Used Glass	$1,700	0.48%	$2,040	0.48%	$2,448	0.48%	$2,938	0.48%	$3,526	0.48%
Decorking	$1,500	0.42%	$1,800	0.42%	$2,160	0.42%	$2,592	0.42%	$3,110	0.42%
Rewash	$22,000	6.17%	$26,400	6.17%	$31,680	6.17%	$38,016	6.17%	$45,619	6.17%
Relabeling	$4,000	1.12%	$4,800	1.12%	$5,760	1.12%	$6,912	1.12%	$8,294	1.12%
Custom Wash	$6,750	1.89%	$8,100	1.89%	$9,720	1.89%	$11,664	1.89%	$13,997	1.89%
Other Value Added	$3,100	0.87%	$3,720	0.87%	$4,464	0.87%	$5,357	0.87%	$6,428	0.87%
Total Sales	$356,550	100.00%	$427,860	100.00%	$513,432	100.00%	$616,119	100.00%	$739,342	100.00%
Cost of Goods Sold										
Material	$216,501	60.72%	$257,636	60.22%	$306,587	59.71%	$364,839	59.22%	$434,158	58.72%
Labor	$50,232	14.09%	$59,776	13.97%	$71,133	13.85%	$84,648	13.74%	$100,731	13.62%
Total Variable COGS	$266,733	74.81%	$317,412	74.19%	$377,720	73.57%	$449,487	72.95%	$534,889	72.35%
Total Fixed Cost of Goods & Services	$71,904	20.17%	$75,499	17.65%	$79,274	15.44%	$83,238	13.51%	$87,400	11.82%
Total Cost of Goods Sold	$338,637	94.98%	$392,911	91.83%	$456,994	89.01%	$532,725	86.46%	$622,289	84.17%
Gross Profit	$17,913	5.02%	$34,949	8.17%	$56,438	10.99%	$83,394	13.54%	$117,053	15.83%
Operating Expenses										
Sales & Marketing	$11,592	3.25%	$12,172	2.84%	$12,781	2.49%	$13,420	2.18%	$14,091	1.91%
Research & Development	$0	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0	0.00%
G & A (without Depreciation)	$50,004	14.02%	$52,504	12.27%	$55,129	10.74%	$57,885	9.40%	$60,779	8.22%
Depreciation	$25,264	7.09%	$32,173	7.52%	$34,107	6.64%	$38,040	6.17%	$39,673	5.37%
Total Operating Expenses	$86,860	24.36%	$96,849	22.64%	$102,017	19.87%	$109,345	17.75%	$114,543	15.49%
Income From Operations	($68,947)	-19.34%	($61,900)	-14.47%	($45,579)	-8.88%	($25,951)	-4.21%	$2,510	0.34%
Contributed Income	$100,000	28.05%	$125,000	29.22%	$125,000	24.35%	$100,000	16.23%	$75,000	10.14%
Interest Expense	$504	0.14%	$504	0.12%	$504	0.10%	$504	0.08%	$504	0.07%
Income before Taxes	$30,549	8.57%	$62,596	14.63%	$78,917	15.37%	$73,545	11.94%	$77,006	10.42%
Taxes on Income	$0	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0	0.00%
Net Income After Taxes	$30,549	8.57%	$62,596	14.63%	$78,917	15.37%	$73,545	11.94%	$77,006	10.42%

***** CASH FLOWS (STATEMENT of CHANGES in FINANCIAL POSITION: Years 1 - 5) *****

Sources of Cash:	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Operations during the year:					
Net Income After Taxes	$30,549	$62,596	$78,917	$73,545	$77,006
Add items not decreasing cash					
Depreciation	$25,264	$32,173	$34,107	$38,040	$39,673
Increase in Accounts Payable	$64,682	($31,241)	$7,901	$9,336	$11,043
Increase in Other Payables	$0	$0	$0	$0	$0
Increase in Accrued Liabilities	$0	$0	$0	$0	$0
Deduct items not increasing cash					
Increase in Accounts Receivable	$83,625	($30,875)	$10,550	$12,660	$15,192
Increase in Inventory	$74,992	($9,360)	$15,801	$18,674	$22,084
Cash from Operations	($38,122)	$103,763	$94,574	$89,587	$90,446
Financing & Other:					
Sale of Stock	$0	$0	$0	$0	$0
Proceeds from Short Term Loans	$0	$0	$0	$0	$0
Proceeds from Long Term Loans	$0	$0	$0	$0	$0
Sale of Investments	$0	$0	$0	$0	$0
Collection of Notes Receivable	$0	$0	$0	$0	$0
Reduction of Other Current Assets	$0	$0	$0	$0	$0
Reduction of Other Assets	$0	$0	$0	$0	$0
Cash from Operations & Financing	($38,122)	$103,763	$94,574	$89,587	$90,446
Applications of Cash:					
Payment of Dividends	$0	$0	$0	$0	$0
Purchases of Fixed Assets	$1,700	$56,000	$16,500	$36,500	$15,600
Repayment of Short Term Loans	$0	$0	$0	$0	$0
Repayment of Long Term Loans	$32,400	$32,400	$32,400	$32,400	$32,400
Purchase of Investments	$0	$0	$0	$0	$0
Increase in Notes Receivable	$0	$0	$0	$0	$0
Increase in Other Current Assets	$0	$0	$0	$0	$0
Increase in Other Assets	$0	$0	$0	$0	$0
Increase/(Decrease) in Cash	($72,222)	$15,363	$45,674	$20,687	$42,446
Change in Cash Balance					
Beginning Cash Balance	$50,000	($22,222)	($6,859)	$38,815	$59,502
Increase/(Decrease) in Cash	($72,222)	$15,363	$45,674	$20,687	$42,446
Ending Cash Balance	($22,222)	($6,859)	$38,815	$59,502	$101,948

BALANCE SHEET (Years 1 - 5)

As of the Year Ending:

Assets	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Current Assets					
Cash	$52,778	$68,141	$113,815	$134,502	$176,948
Investments	$0	$0	$0	$0	$0
Accounts Receivable	$83,625	$52,750	$63,300	$75,960	$91,152
Notes Receivable	$0	$0	$0	$0	$0
Inventory	$106,242	$96,882	$112,683	$131,357	$153,441
Other Current Assets	$5,000	$5,000	$5,000	$5,000	$5,000
Total Current Assets	$247,645	$222,773	$294,798	$346,819	$426,541
Plant & Equipment					
Land	$0	$0	$0	$0	$0
Buildings	$0	$0	$0	$0	$0
Building/Leasehold Improvements	$125,000	$150,000	$160,000	$170,000	$180,000
Machinery & Equipment	$100,000	$125,000	$130,000	$155,000	$160,000
Office Equipment	$2,200	$4,200	$4,700	$5,200	$5,700
Automobiles	$7,500	$11,500	$12,500	$13,500	$13,600
Less Accumulated Depreciation	($25,264)	($57,437)	($91,544)	($129,584)	($169,257)
Total Net Plant & Equipment	$209,436	$233,263	$215,656	$214,116	$190,043
Other Assets	$0	$0	$0	$0	$0
Total Assets	$457,081	$456,036	$510,454	$560,935	$616,584
Liabilities & Owners' Equity					
Current Liabilities					
Short Term Debt	$0	$0	$0	$0	$0
Accounts Payable	$79,682	$48,441	$56,342	$65,678	$76,721
Other Payables	$1,000	$1,000	$1,000	$1,000	$1,000
Accrued Liabilities	$10,000	$10,000	$10,000	$10,000	$10,000
Total Current Liabilities	$90,682	$59,441	$67,342	$76,678	$87,721
Long Term Debt	$142,600	$110,200	$77,800	$45,400	$13,000
Total Liabilities	$233,282	$169,641	$145,142	$122,078	$100,721
Owner/Stockholder Equity					
Common Stock	$0	$0	$0	$0	$0
Retained Earnings	$223,799	$286,395	$365,312	$438,857	$515,863
Less Dividends Payable	$0	$0	$0	$0	$0
Total Owners' Equity	$223,799	$286,395	$365,312	$438,857	$515,863
Total Liabilities & Equity	$457,081	$456,036	$510,454	$560,935	$616,584

*** RATIOS ***					
Current Ratio	2.73	3.75	4.38	4.52	4.86
Quick Ratio (Acid Test)	1.50	2.03	2.63	2.74	3.06
Total Debt to Total Assets	0.51	0.37	0.28	0.22	0.16
Total Debt to Owners' Equity	1.04	0.59	0.40	0.28	0.20

CAUTION: These ratios are only valid if your Balance Sheet is in balance.

Appendix A

Resource Manual

Introduction

The Clean Washington Center (CWC) was awarded a grant through the Environmental Protection Agency's "Jobs Through Recycling" program in early 1995 to determine the feasibility of establishing a large-scale wine bottle resterilization program for Washington State. At that time the Skookum Corporation, non-profit organization in Port Townsend, WA, that runs a small county-wide recycling program, was just starting a small-scale wine bottle resterilization pilot project from its relatively isolated geographic location in a northwest corner of the state. CWC contracted with Skookum to conduct an analysis of its pilot project to determine the feasibility of expanding that project into the statewide program envisioned in the Jobs Through Recycling grant. While it was determined that Skookum and other participants identified through the feasibility study process lacked the capital to launch a full-scale operation, much valuable expertise was gained during the nearly two-year pilot project operated by Skookum. The following manual represents a summary of the technical information gained from that experience.

This manual is intended to be used as an operational reference guide by any individual, business, or organization that may be considering the establishment of a bottle resterilization program in their own community. It describes a series of operational issues that must be considered and addressed when establishing a bottle resterilization project with an annual production level of 50,000 cases. There is nothing magical about that number -- it could be increased or decreased depending on the supply of raw materials and market opportunities within a particular community. The establishment of a bottle resterilization program of any size, however, is a complex undertaking requiring significant capital, expertise, and a broad array of participants. Those considering a smaller venture should carefully consider whether they will be able to generate sufficient revenue to establish and maintain the infrastructure needed to sustain this type of operation.

It should be noted that the sole focus of this resource manual is on the collection and resale of wine bottles. That is because wine bottles represent one of the best examples of a product that can be diverted from the waste stream and returned to productive use with enough value added to pay for operating costs. Indeed, there are several examples of successful wine bottle resterilization projects in the United States. There are, however, many other products, most notably custom beer bottles and other glass containers that may be worth considering in any resterilization venture.

A Business Plan is also available for those who may be seeking a more detailed financial and analytical analysis of a resterilization operation with an initial annual production level of approximately 50,000 cases. While the Business Plan specifcally addresses issues related to the establishment of such an enterprise in Washington State, it may prove useful for anyone who may be considering establishing a venture of similar size in their own community.

Raw Materials

A reliable source of raw materials is the essential cornerstone of any bottle resterilization project

Raw Materials: Overview

Bottle Selection: Although there are over 100 styles and colors of wine bottles present in most waste streams, fewer than two dozen can be collected in sufficient quantity or are in sufficient demand by wine producers to be usable for a resterilization project.

Sources: There are four primary sources of wine bottles for use by resterilization projects, each with its own unique issues, strategies, and cost:

- Wineries
- Recyclers
- Restaurants/Businesses
- Post-Consumer

Waste Glass: Many of the bottles collected may be unusable for a variety of reasons. In addition, the bottlewashing process may result in bottles that are chipped, broken, or are otherwise unusable. This glass, when properly handled and stored, can be profitably sold to businesses and artisans seeking relatively clean glass, sorted by color.

Raw Materials: Bottle Selection

There are over 100 styles and colors of bottles present in most waste streams, only a few of which are used in significant quantities by the small to medium-sized wineries that are the most likely customers of resterilized glass. Unusable bottles include many European or Australian imports which generally are of different sizes and shapes than those used by the U.S. wine industry. Other unusable bottles include those that are specially made for a particular winery (Gallo, etc.) or that are unusual shapes, sizes, or colors. Flange-topped bottles are an example of a popular new bottle used by many wineries which may, in the long run, prove to be an example of a trendy style pushed by marketing departments that may disappear from the market in a few years.

The following questions must always be asked about each bottle collected for resterilization:

1. Who will I s ell this bottle to?
2. Will my machine wash a bottle of this particular size and shape?
3. How and where will I store this bottle? (the more bottles you choose to wash, the more warehouse space you will need for your operation)

The following bottles should definitely be collected :

- 750 ml Burgundy: Deadleaf Push-Up, Deadleaf Flat,
- 750 ml Claret: Flint Push-Up, Flint Flat, Champagne Green Push-Up, Champagne Green Flat
- 750 ml Hock: Champagne Green, Flint, Amber

The following bottles should possibly be collected:

- 750 ml Burgundy: Champagne Green Push-Up, Champagne Green Flat, Flint Flat
- 750 ml Claret: Emerald Green Flat, Champagne Green Tapered Push-Up
- 375 ml Hock: Amber, Flint, Champagne Green
- 1.5 ltr Burgundy: Champagne Green
- 1.5 ltr Claret: Flint, Champagne Green

The following 750 ml bottles should not be collected:

- Imports, Flange Tops, Bottles created for a particular winery
- 750 ml Burgundy: Champagne Green Push-Up, Flint Push-Up
- 750 ml Claret: Deadleaf Push-Up, Deadleaf Flat, Emerald Green Flat
- 1.5 ltr: Push-Ups, unusual shapes or tapers
- Any bottle that cannot be accumulated in quantities of 100 cases or more

Raw Materials: Sources

I. Wineries are by far the best source of bottles. That is because: 1) their bottles typically come from tasting rooms usually relatively clean. Many bottles may, in fact, be new glass that is left over from bottling runs which they are willing to donate rather than store in their warehouses; 2) almost all of the bottles are usable; 3) the bottles are generally stored in boxes on pallets and are therefore relatively easy to transport; 4) the process of securing donated bottles from wineries provides a great opportunity to educate wineries about the issue of reuse and to encourage their future purchase of resterilized or new glass; and 5) the process of traveling to wineries and picking up bottles from warehouses provides opportunities to talk with owners and front line workers about issues unique to their particular winery (i.e., how the "crush" is progressing, future orders, special packaging or palletizing issues, info on competitors, etc.).

The following issues must be considered when seeking donated bottles from wineries:

- Relationships. Strong attention to the relationship building opportunities in this situation are crucial. Drivers must be courteous, knowledgeable, friendly, and willing to pitch in during unusual circumstances (like when a forklift breaks down and the bottles have to be loaded by hand). Remember: you are asking the wineries to do you a favor. If this relationship deteriorates you will lose both an important source of free raw materials and a potential future customer.
- Warehousing. Since most wineries have limited storage capacity creative solutions may need to be considered when seeking donated bottles. For example, in Washington State a relatively large winery donated a section of its warehouse for bottle collections and up to 20 smaller wineries from throughout the area transported their bottles to that site.
- Transportation. Even the biggest wineries have warehousing issues, particularly during peak production times. Adequate transportation MUST be available to move accumulated bottles from warehouses as needed.
- Cost. Many wineries are willing to donate bottles, particularly if they understand how this relationship benefits them and logistical issues are addressed to their satisfaction. Other wineries may be willing to donate bottles only if they receive some credit against future purchases of resterilized or new glass. Be careful: the wine industry is very collegial in nature and you must conduct business with the assumption that what one winery knows everyone knows. A separate deal to purchase bottles from one winery when others are donating the same product could quickly create ill-will throughout the industry. It's best to establish a policy and stick to it.

II. Recyclers are an important potential source of bottles. This source may, in fact, prove essential for medium to large-scale resterilization projects since those operations will almost certainly wash more bottles than can be obtained from wineries. These bottles are typically purchased by the case or the ton at varying cost depending on whether they are pre-sorted and on who is providing the transportation.

The following issues must be considered when seeking to purchase bottles from recyclers:

- Quality is a critical issue, and one which may prove difficult to resolve. Bottles that have been retrieved from the waste stream may well be scratched, chipped, or extremely dirty. They must be stored in bins or containers that minimize damage and the maximize transportation and handling. It is far preferable to purchase pre-sorted bottles. A little bit of cost added up front may greatly reduce the need to establish extensive sorting operations on-site and will also reduce the amount of waste glass that will accumulate at the warehouse.
- Storage/warehousing can be a critical issue. It may be very important to work closely with recyclers to remove accumulated bottles on a regular basis from their facilities before they exceed their storage capacity. Transportation may prove to be less an issue with recyclers than with other sources of raw materials since they have their own trucks.
- It is extremely important to establish positive relationships with recyclers. Recyclers are often passionate about the issue of reuse, and when a business is viewed as complementary rather than competitive to their own operations they may provide invaluable technical or operational support. They can be particularly adept at finding creative solutions to difficult operational issues on a limited budget.

Many are also well connected to their local Solid Waste Advisory group or other governmental entities that may be willing to provide significant cash or in-kind support to a new recycling operation.

III. Restaurants and Businesses that serve wine to their customers are, next to wineries, the best source of usable glass. That is because the bottles are intercepted before they enter the waste stream and are generally free from chips, scratches, and dried residues. New restaurants and businesses can be added as greater volumes of bottles are required. This is a more labor intensive project than receiving bottles from wineries or recyclers, however, since it requires the establishment and maintenance of both a transportation system and a sorting operation and will increase the volume of waste glass that arrives at the warehouse.

The following issues must be considered when collecting bottles from restaurants and businesses:

- Although it is typically the owners or managers of restaurants and businesses who make the decision to collect and donate bottles, it is often the kitchen or other front line staff who are responsible for its implementation. It is important to establish and maintain good working relationships at each site for all of the people responsible for this project.
- It may not be cost effective to collect fewer than 25 cases of bottles at a particular location. Restaurants and businesses hopefully will place donated bottles in cardboard boxes. Otherwise, other types of containers may need to be provided to them.
- The collection of bottles from restaurants or businesses may or may not prove cost effective when compared to collections from wineries or recyclers. Pay particular attention to the costs of transportation, sorting, and waste disposal. There may be a tendency for increasing amounts of waste glass (beer bottles, unusable wine or liquor bottles) to be mixed into the collections once the route has been established. This will require careful monitoring.
- Since most restaurants and businesses have very little capacity to store accumulating bottles it is critical to establish and maintain an agreed upon collection schedule.
- Don't waste time trying to collect bottles from restaurants and businesses that may be unusable. This is particularly true of Italian and other restaurants that primarily use imports or unusual wines.

IV. Post Consumer bottles can gen erally be described as bottles that have been brought by the general public to collection sites specifically established for this purpose. This generally has been a very problematic means of obtaining bottles and is not recommended. Beer bottles, liquor bottles, jugs, and many other types of glass are often disposed of at these sites, often reducing the amount of reusable bottles far below 50%. Bottles are frequently scratched and chipped, and quality control is almost impossible to maintain without constant monitoring. Once established, post consumer collection sites can be very difficult to close. Indeed, consumers may continue to leave bottles at collection sites for over a year after the bins and signage has been removed, creating unwanted waste removal problems. This collection method should be considered only as a last resort and only under highly controlled conditions.

Sorting

Sorting can add a complex and labor intensive component to any bottle resterilization project. There are over 100 sizes, shapes, and colors of bottles in the U.S. market and it can be a challenge to sort through those to find the 10-20 types that may be marketable for resale. Although slight variations may seem insignificant to the untrained eye, those variations can prove to be hugely problematic to high speed bottling operations utilized by many wineries that cannot accommodate size variations. This is particularly true of push-ups, where there may be dozens of variations in the size and depth of the punt. A quality sorting operation, however, is very important in that it enables the collection of bottles from donated sources -- very few bottle donors, including wineries, are willing to pre-sort their bottles. It also helps support an important level of expertise within the resterilization operation on the bottle market that can prove invaluable when working directly with wineries and glass suppliers.

The following issues must be considered when establishing and maintaining a bottle sorting operation:

- Don't assume that bottle sorting is a low-skill operation that anyone can handle. It requires considerable training, supervision, and monitoring.
- Any sorting operation will require a considerable amount of space. Up to 10,000 sq' will likely be needed for any significant sorting operation.
- It is important to anticipate what type of container the bottles will be sorted into. Cardboard boxes are ideal in that they can be easily stacked onto pallets, the cardboard helps to protect bottles from chips and scratches, and they enable the bottles to be stored upside down (which helps wine residues to drain out of the bottles). Boxes that are obtained as a by-product of the washing process, that are recovered from the bottles arriving at the warehouse, or that are donated from wineries or liquor stores are suitable for this purpose. Bins such as wooden apple bins are suitable providing they are durable enough for continued use and they can easily be moved within the warehouse.
- Storage of sorted bottles is an important consideration. Bottles stored on their sides in bins where they are subjected to heat and dust may become unwashable over time since dried wine residue can actually etch into the inside glass surface over time. Ideally, all bottles should be stored indoors, upside down, and in boxes.

Waste Glass at the Resterilization Facility

Waste Glass is a natural by-product of any resterilization project. The greatest source of waste glass is from bottles that have been transported to the warehouse but that will not be washed because they are the wrong size, shape, or color. The other primary source of waste glass is from bottles that have become chipped, scratched, or broken during the washing process.

The following issues must be considered when disposing of waste glass:

- Relatively clean glass sorted by color is a unique by-product of the bottle resterilization process. This glass has a significant value when crushed and sold to artisans for the manufacture of art and recycled products. Indeed, it may be more profitable to wash otherwise unusable bottles than pay for their removal and/or disposal.
- Any glass resterilization will produce significant quantities of waste glass. For example, a resterilization operation that relies wholly or in part on its own collection operation must anticipate that at least 10% of the glass that arrives at the warehouse will be unusable. With an annual production level of 50,000 cases, at least 55,000 cases will have to be collected and up to 40 tons of glass will have to be disposed of.

Operations

A complex array of operational issues must be overcome if a successful bottle resterilization project is to be established. The ultimate success or failure of the project will likely lie in how each individual operational issue is anticipated, identified, and resolved.

Operations: Overview

- Physical Plant: The operations warehouse must be of sufficient size to accommodate incoming raw materials, storage of sorted bottles, the bottlewashing operation, and storage/shipping of finished goods.
- Machine Operation: The resterilization process requires that bottles be subjected to the right combination of water, chemicals, heat, and agitation. This is a delicate balance that must be continuously monitored and adjusted.
- Packaging: Boxes and dividers must be of high quality and be designed to accommodate bottles of a variety of sizes and shapes.
- Transportation: Transportation can add significant cost to to a resterilization operation, particularly in states such as Washington where more than 150 miles and a mountain range separate the greatest source of raw materials from the state's primary wine producing region.
- Quality Control: Adequate training, lighting, and quality control procedures must be in place to assure that no chipped, scratched, or otherwise flawed bottles will be packaged and sold.

- Safety: Since the resterilization process exposes workers both to caustic solutions and a variety of machines each worker must be provided with quality safety equipment, basic first aid instruction, and training in how to respond in the case of an accident or injury.

Operations: Physical Plant

Physical Plant requirements will vary according to production levels and the requirements of the machine that will be used. The size needed for the physical plant is in direct proportion to anticipated production levels -- increased production requires expanded space for inventories of raw materials, finished goods, and production materials. The machine itself may have significant power, water, and sewage requirements. Lighting must be sufficient both for general operations and for the bottle inspection area. Storage must be provided for hazardous materials, unmade boxes, and raw materials.

The following issues must be considered when securing and designing a physical plant capable of producting 50,000 cs/yr:

- Raw Materials -- Receiving and Sorting. Although the quantity of raw materials arriving at the facility is likely to vary considerably with each shipment, space must be available to accommodate the largest anticipated shipments. For example, a 60' semi can hold up to 30 40" x 48" pallets of boxed raw materials (75 cs/pallet, 2250 cs total). These pallets can be stacked up to three high in the warehouse, depending on the stability of each pallet. A space of up to 20' x 20' would be required to receive this size of a shipment. If these bottles are pre-sorted they can be forklifted directly into the storage area, otherwise additional sorting may be required. It is strongly recommended that pallets, bins, boxes, or totes of unsorted bottles NOT be transported inside the physical plant without careful consideration of the space requirements of a sorting area (minimum 10,000 sq'; see Raw Materials, Sorting). A minimum raw material receiving area of 2000 sq' is recommended for the receipt of raw materials. The additional 10,000 sq' is recommended for the sorting area itself can be located outside or on adjacent property and is not necessarily considered to be part of the overall physical plant layout.
- Raw Materials -- Storage. Bottles must be stored in boxes on pallets in sufficient quantity to meet incoming orders. A minimum of 12 bottle sizes/ colors must be stored in quantities of at least 1,000 - 5,000 cs each. Storage of 1,000 cs, 75 cs/pallet, stacked three high, requires a minimum of 400 sq'. A facility with annual production levels of 50,000 cs/yr must have storage capacity for at least 20,000 cs, requiring 8,000 sq' of warehouse space.
- Bottlewashing Machines - Although bottlewashing machines can vary greatly in size, the machine most likely to be utilized would have a footprint of approximately 15' x 40'. A minimum of 1500 sq' would be required for the machine, which allows for adequate clearance space on all sides.. In addition, other specific machine requirements must be accommodated: ventilation must be provided for the fuel oil powered boiler, and electrical, water, and sewage requirements must be addressed. Considerable time may have to be spent with the manufacturer or previous machine operator to make sure that all machine requirements are anticipated and addressed.
- Boxmaking. Up to 500 boxes may need to be pre-made in anticipation of wash days. Since they are typically stacked five high a minimum of 1,000 sq' will be needed for the boxmaking/storage area.
- Finished Goods. Once washed, bottles must be placed into boxes, stacked on pallets (up to 75 cs can be stacked on a 40" x 48" pallet), shrink wrapped, and stored. Up to 10,000 cases of finished goods may need to be stored, requiring 4,000 sq'.
- Pallets. Up to 150 40" x 48" pallets may be present in the warehouse at any given time, which can be stacked up to 30 high. This will require 200 sq' of storage space.
- Other Material Warehousing. The primary materials that will need to be stored are boxes and dividers. Typically, manufacturers place 4 bundles of 100 boxes or 8 bundles of 100 dividers on each pallet. Since there are significant price advantages for ordering boxes and dividers in quantity and a minimum of five box and divider sizes will be used it should be anticipated that up to 10,000 boxes and 10,000 dividers may be on hand in the warehouse at any given time. This will require a minimum of 500 sq'.
- Hazardous Materials. 50% Sodium Hydroxide solution is purchased in 55 gallon steel drums, each weighing over 700 pounds. It must be stored in a fairly warm area since its freezing temperature is around 60oF. This is a very caustic solution and must be handled with extreme caution. In addition, other hazardous materials such as hydrochloric acid may be used for machine cleaning and maintenance. It is recommended that lockable storage space be allocated for up to forty 55-gallon drums of hazardous materials. Storage space of this capacity will allow for the cost effective purchase of these materials in bulk and/or will increase the capacity of the organization to seek sizable donations from other businesses.

- Waste Materials. The principal waste materials will be cardboard boxes; broken, chipped, or otherwise unusable glass; and soggy labels and other residues from the bottlewashing process. A dumpster or other large receptacle will be needed for the glass -- if the glass is to be sorted by color for resale bins for clear, amber, deadleaf, and green colored glass will be required. Most cardboard boxes can be reused and moved to the sorting area. Unusable or excess boxes will need to be sold as scrap to recyclers. A minimum of 3,000 sq' is recommended for the waste material area.

Operations: Machine Operation

There are a variety of machines on the market, each of which has its own unique requirements. All utilize varying amounts of water, chemicals, heat, and agitation to remove labels and dirt from bottles. It would be impossible here to describe the operational systems of all bottlewashing machines. The following description of the Austrian-built Klinger "Winzer" bottlewashing machine utilized by Skookum in its pilot bottlewashing project in Washington State is intended as just one example of a bottlewashing machine's operation. It should be noted that the Klinger machine was designed for a European market where relatively clean bottles with pH reactive label adhesives are washed for a limited amount of time. It is recommended that a larger machine be used for any U.S. bottlewashing operation. Bottles traveling through a larger machine would be exposed to caustic solutions for a longer period of time and would be subjected to more vigorous washing action.

The Process

Dirty bottles with their neck wrappers removed are introduced by hand into the opening of the machine where they are automatically loaded in rows six across into metal baskets (larger machines can accommodate rows of up to 30 bottles across). The baskets containing the bottles proceed into a soak tank where they are completely submerged in a caustic bath at approximately 60 °C. They remain submerged in this solution for approximately 15 minutes as they progress through the bottom of the machine. When they reach the end of the soak tank they travel to the top of the machine where they invert and are sprayed with strong upper and lower jets of the same chemical solution at approximately 80°C , some jets forcing the solution into the inside of the bottles and others fan spraying the outside to remove labels and surface contaminants. The bottles then proceed to the warm water rinse jets (approximately 50 °C) where the chemical solution is rinsed off and the bottles are cooled somewhat prior to their entry into the final fresh water rinse. They exit from the machine six bottles at a time, where they are moved by a conveyor belt to an inspection platform. The bottles are each individually inspected and packaged into new boxes. The entire washing cycle takes approximately 40 minutes. When fully loaded the machine holds 24 cases of bottles.

The Chemicals

There are two general types of solutions that can be introduced into the soak tank to loosen the chemical bonds that cause the adhesives and contaminants to adhere to the bottles -- acids and bases. Acids tend to be expensive and can be corrosive to the metal surfaces of the machine. Bases are the "industry standard" for the bottle washing industry because of their cost, their effectiveness, their less caustic interaction with the machine's metal parts, and the ease with which their chemical properties can be neutralized before introduction into the waste stream.

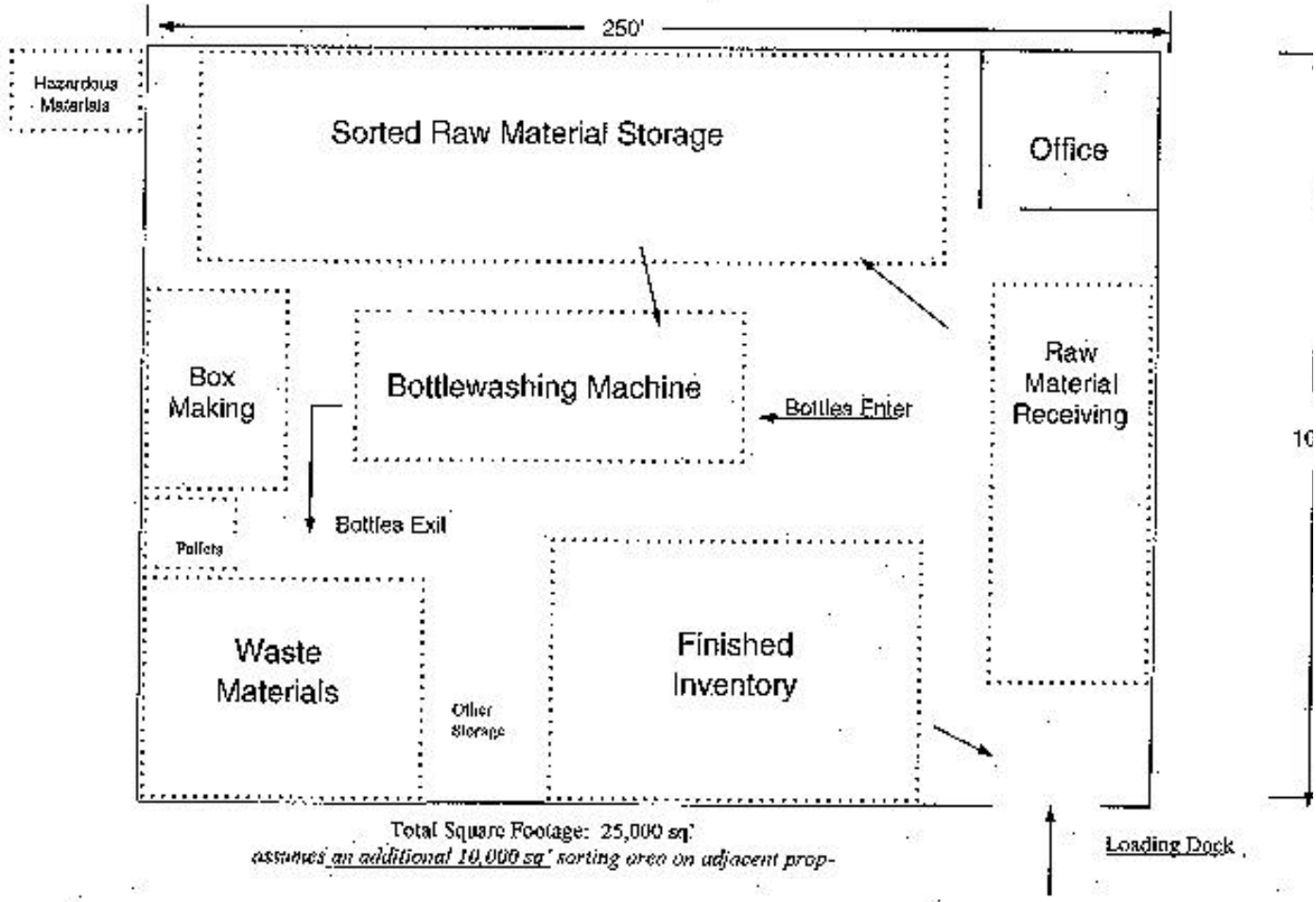
Physical plant summary:

· Raw Materials: Receiving	2000 sq'
· Raw Materials: Storage	8000 sq'
· Bottlewashing	1500 sq'
· Boxmaking	1000 sq'
· Finished Goods	4000 sq'
· Pallets	200 sq'
· Other Materials	500 sq'
· Hazardous Materials	50 sq'
· Waste Materials	3,000 sq'
- Total Space Requirements:	*20,250 sq'

*Does not include an additional 10,000 sq' needed for sorting area as well as additional space needed for an office and aisleways between the various sections.

SAMPLE PHYSICAL PLANT LAYOUT

for manufacturing facility capable of resterilizing 50,000 cs/annually



Total Square Footage: 25,000 sq'

assumes an additional 10,000 sq' sorting area on adjacent prop-

Washing Fundamentals

It is the goal of the washing process to produce clean bottles that have a neutral acid/base as close to pH7 as possible as they emerge from the machine. During an average washing operation with the Klinger machine, 15 gallons of a 50% sodium hydroxide solution are introduced into the soak tank, which yields a sodium hydroxide/water ratio of approximately 2% - 2.5%. While the concentration of sodium hydroxide can be varied, heavier concentrations tend not to greatly impact bottle cleanliness and run the risk of altering the pH balance of the bottles. A bad pH balance residue in bottles can negatively impact the flavor of the wines that are bottled into the resterilized bottles.

Surfactants can also be introduced into the soak tank in varying amounts. Surfactants are concentrated soaps that promote a sheeting action that can improve the distribution of the caustic within the inside of the bottle, potentially improving both cleanliness and appearance. Surfactants are not always used, however, since their impact is uncertain and there is a possibility that they may actually mask the true condition of the bottle.

Other Operational Issues

It may take some time and experimentation to arrive at the right combination of water, chemicals, heat, agitation, and time to remove stubborn labels or wine residues from bottles. There are a wide variety of adhesives and label materials in use in the U.S. market, some of which are very difficult to remove. Strong pressure sensitive adhesives or labels that are plastic coated or varnished may prove impervious to even the most aggressive washing solutions or processes. Ultimately, it may require lobbying efforts to particular wineries or the wine industry in general to promote acceptance of adhesives and labels which can be removed by the resterilization process.

Machine Operation

A minimum of three to five people will be needed to run the machine, depending on its operational capacity. One-two people will be needed to remove neck wrappers and load bottles into the machine, one-two people will be needed to inspect and package bottles exiting from the machine, and an additional person is needed to bring raw materials to the machine and take finished goods away from the machine by forklift. The latter person may also be involved with shipping and receiving as well as general warehouse management.

The following additional issues must be considered when running a bottlewashing machine:

- Since the workers will potentially be exposed to caustic chemicals or heat they must be trained in first aid and emergency procedures and, if necessary, provided with proper safety equipment. This may include goggles, chemical resistant gloves and boots, a toxic fume mask, and other protective clothing.
- A great deal of water is involved in the washing process. It may be advisable to have floor drains near the machine in the case of overflows or equipment failure.
- A variety of additional machines can be appended to the bottle washing machine to enhance its operation. This includes an automatic neck wrapper remover, automatic bottle inspection machines, or advanced filtration systems. These machines can be extremely expensive, however, and the cost benefits of each should be carefully considered before their purchase.
- Sometimes bottles may need to be introduced into the machine a second or third time when cleanliness is not achieved during the first wash. Such bottles, however, may be subject to chemical burns and must be carefully inspected.

Operations: Transportation

- Dividers should be sturdy, come to the top of the box, and be made, ideally, of corrugated cardboard. Money saved in cheaper dividers will result in breakage, handling difficulties, less stable boxes and, ultimately, lost sales.
- Bottles should fit snugly but not tightly into boxes. Too loose a fit will create problems for wineries when the boxes are inverted for bottle removal. Too tight a fit will cause additional operational problems for wineries, including tears and abrasions to labels as the bottles are reloaded into the boxes.
- Boxes should be stacked five high in rows of 15 on 40” x 48” pallets. The boxes should not be sealed and should be stacked with the bottom four rows facing up and the top row inverted
- A variety of boxmaking machines and methods are available. A single operator with a low-tech hot melt gun can make 60-75 boxeshr. Stapling and high speed machines can greatly increase speed and reduce the cost of labor/box.

Operations: Quality Control

- Make sure that all delivery issues have been anticipated before leaving for a winery. Some smaller wineries may not have forklifts or may be able to accommodate pallets only of a certain size.
- When transporting less than a full load make sure pallets are pushed all the way forward. A load restraint bar may prove important in maximizing load stability.
- A hazardous materials endorsement and a commercial driver’s license may necessary when transporting more than one barrel of sodium hydroxide or other hazardous chemicals.
- Essential equipment for delivery drivers include wheel chocks, a chain, and gloves. A pallet puller and pallet jack may also be required.

Sales and Marketing

Wine sales are heavily dependent on the ability of wineries to present intangible qualities such as image, quality, prestige, and value to their customers. Any sales and marketing effort to the wine industry must emphasize how the purchase of resterilized glass may improve an individual winery's image, support their core values, and/or save them money.

Wine Industry Characteristics

I. General Description. Image, quality, and prestige are crucial to the wine industry. People purchasing wine generally have a wide range of available choices and often make their selection based as much on reputation and appearance as on price. Image is particularly important to the small and medium-sized wineries that are the likely core customer base for resterilized bottles. Many of those wineries are family owned and the quality of the product reflects directly on the personal reputation of the owners themselves. In addition, many wineries are concerned about how their glass contributes to their state's solid waste problem and are very appreciative of the opportunity to be presented with an "environmentally responsible" alternative to their current purchasing options.

Before considering a marketing campaign to the wine industry it is important to understand market and production variables that may determine whether a particular winery may be a potential customer. For example: although there are over 100 wineries in Washington State over 75% of the state's wine is produced by only four wineries. These four wineries were very generous in donating used bottles because they felt that by doing so they were presenting a positive community image, supporting an enterprise that could generally benefit or enhance the image of the entire wine industry, and it presented them with an opportunity to clear their warehouses of glass they would otherwise have had to pay to dispose of. These wineries, however, had no interest in purchasing resterilized glass because: 1) their high volume purchase of new glass entitled them to price breaks that enabled them to purchase new glass at prices similar to that of resterilized glass; 2) their high-speed bottling lines could not accommodate even the slightest size variations that were present in most resterilized bottles; and 3) it was impossible to collect bottles in sufficient volume to sell 10,000 or more cases of a specific bottle type. Given these considerations, the following types of wineries will be the most likely purchasers of resterilized glass:

- Wineries that purchase glass in volumes similar to that which can be produced by the resterilization operation.
- Wineries that are particularly concerned about environmental issues.
- Smaller wineries that may want to purchase relatively small quantities at one time. These wineries sometimes have to purchase an entire year's worth of glass at one time from large glass distributors which may greatly strain their warehouse space and operating capital.
- Wineries that may have bottles in their own warehouses that may have become unsterile or otherwise contaminated.
- Wineries that may be dissatisfied with the service they are receiving from their current glass supplier(s). Most consistent complaints: too much lead time required for ordering, costly charges for pallets and transportation, and unwillingness to consider small orders.

Sales and Marketing: Strategies

- **Make presentations to industry groups.**

Getting on the agenda to speak at wine producer's associations, wine institutes, liquor control boards, etc. may provide an opportunity to speak to many owners at a single time, distribute literature, and present information of general interest to the entire wine industry.

- **Provide education about how wine bottles contribute to the area's solid waste problem.**

Wineries are often unaware of the fact that up to 50% of the glass in landfills is made up of wine and beer bottles. When they understand how they are part of the problem, many will seek to become part of the solution. Many wineries, for example, that may be initially reluctant to purchase resterilized glass may be willing to donate used bottles. That is the beginning of a relationship that could result in future sales.

- **Don't promise what you can't deliver.**

Wineries often hire extra crews and face severe logistical problems when they are ready to bottle their wines. The glass absolutely MUST be there on time. Excuses are not acceptable.

- **Be extra considerate during "the crush" -- generally from mid-July through the end of September.**

  This is the time when grapes are harvested, and a time when most wine owners are working extremely hard and are not available.

- **Be flexible.**

  Many large new glass suppliers are unwilling to provide wineries with small quantities of bottles on short notice. That presents a unique market niche for the resterilization operation. Many new sales occur as current orders are being delivered. The delivery person must be knowledgable and personable enough to engage owner in casual conversations that could lead to additional sales.

- **Promote a range of services - not just the sale of glass.**

  Resterilization operations likely provide the only opportunity that owners have to have labels removed from full bottles or to have unsterile bottles that have accumulated in their warehouse rewashed and returned to productive use. Other service options such as decorking can establish relationships that will result in future sales.

- **Expand your customer base to include more than just wine bottles.**

  While it is likely that wine bottles will continue to be the core of any bottle resterilization project, tremendous potential exists for providing services to businesses other than wineries that utilize reusable glass containers, such as microbrews and custom beer bottlers.

- **Continually present a positive image of resterilized glass.**

  Stress sterility, quality control, and the environmental benefits of using this product. Wine producers worst nightmare is that their product will end up on a store shelf with mold, dirt, or chipped glass inside as a result of their use of resterilized glass. Every effort must be made to discuss the product's viability, as demonstrated by stringent quality control standards.

- **Carefully plan your pricing strategy.** Find out what wine producers are paying for new glass and price resterilized at $.50 - $1.00/cs cheaper.